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**AGREEMENT BETWEEN  
HONEYWELL INTERNATIONAL, INC. AND  
THE TOWN OF ENFIELD, CONNECTICUT**

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**July 28, 2015**



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## **ARTICLE 1**

### **GENERAL PROVISIONS**

**1.1** This Agreement, including all Attachments, Exhibits, Schedules and Addenda referenced herein (hereinafter the "Agreement") is made by and between Honeywell International Inc. ("HONEYWELL"), a Delaware Corporation, acting through its Automation and Control Solutions business unit, with a principal place of business at 101 Columbia Road, Morristown, New Jersey 07962-1057, and the Town of Enfield CT ("CUSTOMER") a municipal corporation organized pursuant to the laws of the State of Connecticut, with a principal place of business at 820 Enfield Street, Enfield CT 06082 (collectively the "Parties").

**1.2** EXTENT OF AGREEMENT: This Agreement, including all attachments, exhibits, schedules and addenda hereto, represents the entire agreement between CUSTOMER and HONEYWELL and supersedes all prior negotiations, representations or agreements. This Agreement shall not be superseded by any provisions of the documents for construction and may be amended only by written instrument signed by both CUSTOMER and HONEYWELL. None of the provisions of this Agreement shall be modified, altered, changed or voided by any subsequent Purchase Order issued by CUSTOMER, which relates to the subject matter of this Agreement.

**1.3** As used in this Agreement, the term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by HONEYWELL to fulfill HONEYWELL's obligations, as described in Attachment A and otherwise set forth in the Contract Documents. The Work may constitute the whole or a part of the Project. The Work specifically excludes certain design and construction, which are the subject of separate agreements between CUSTOMER and parties other than HONEYWELL.

**1.4** The Project is the total construction of which the Work performed by HONEYWELL under this Agreement may be the whole or a part.

**1.5** The Contract Documents consist of this Agreement, its attachments, exhibits, schedules, and addenda.

**1.6** Support Services means additional services and obligations to be undertaken by HONEYWELL in support of CUSTOMER as set forth in Attachment D.

**1.7** Installation Schedule means that schedule set out in Attachment C describing the Parties' intentions respecting the times by which the components or aspects of the Work therein set forth shall be installed and accepted by CUSTOMER.

## **ARTICLE 2**

### **HONEYWELL'S RESPONSIBILITIES**

#### **2.1 HONEYWELL Services**

**2.1.1** HONEYWELL shall be responsible for construction of the Work described in Attachment A, for guarantees that the Work performs as specified in Attachment F, and for provision of those Support Services described in Attachment D that are authorized by CUSTOMER.

#### **2.2 Responsibilities with Respect to the Work**

**2.2.1** HONEYWELL will secure mechanical and electrical permits as necessary for the Work.

**2.2.2** HONEYWELL will provide design engineering, drawings and specifications, construction supervision, inspection, labor, materials, tools, construction equipment, as-built drawings and other related documentation, operations and maintenance training, and subcontracted items necessary for the execution and completion of the Work.

**2.2.3** HONEYWELL shall complete rebate applications for the CUSTOMER and shall provide the necessary documentation in the form of calculations, design documents, and like materials as required for rebate applications, submit those applications on CUSTOMER'S behalf, and assist CUSTOMER in discussions and negotiations with the utility required to secure approval of rebate applications

**2.2.4** HONEYWELL shall keep the premises in an orderly fashion and clean up and remove waste materials or rubbish caused by its operations at the end of each workday, unless otherwise agreed to in writing by CUSTOMER.

If HONEYWELL damages property not needed for the Work, HONEYWELL shall repair the property to its pre-existing condition unless CUSTOMER directs otherwise. At the completion of the Work, HONEYWELL shall remove any remaining waste material caused by the Work as well as all its tools, construction equipment, machinery and surplus material. Waste shall be disposed of as follows:

- (a) Construction Waste and/or Non-hazardous Waste: Construction waste (cardboard, metal, wood crates, plastic, wiring, etc.), and/or non-hazardous waste (non-PCB ballast's, lamps, batteries, etc.), shall be removed offsite by Honeywell or its subcontractors for disposal and/or recycling. The Customer's name and address shall be listed on the shipping documents as the owner/generator of the waste. The transportation of waste materials will meet local regulatory requirements.
- (b) Hazardous Waste: If and to the extent Honeywell is responsible for removal of hazardous waste pursuant to the express provisions of the Attachment A Scope of Work, Honeywell or its subcontractors shall contract with a licensed transporter for the removal of the applicable hazardous waste (PCB's, mercury, asbestos, etc.). The Customer's name and address shall be listed on the shipping documents as the owner/generator of the waste. The transportation of waste materials will meet local regulatory requirements.

**2.2.5** HONEYWELL shall give all notices and comply with all laws and ordinances legally enacted as of the date of execution of the Agreement governing the execution of the Work. Provided, however, that HONEYWELL shall not be responsible nor liable for the violation of any code, law or ordinance caused by CUSTOMER or existing in CUSTOMER's property prior to the commencement of the Work.

As part of these responsibilities, HONEYWELL shall observe and ensure that its subcontractors observe any CUSTOMER restrictions with respect to smoking and other behaviors on CUSTOMER property. Further, HONEYWELL shall ensure that its employees and any subcontractors engaged satisfy CUSTOMER'S Criminal Offender Record Information (CORI) check requirements.

**2.2.6** HONEYWELL shall comply with all applicable federal, state and municipal laws and regulations that regulate the health and safety of its workers while providing the Work, and shall take such measures as required by those laws and regulations to prevent injury and accidents to other persons on, about or adjacent to the site of the Work. It is understood and agreed, however, that HONEYWELL shall have no responsibility for elimination or abatement of health or safety hazards created or otherwise resulting from activities at the site of the Work carried on by persons not in a contractual relationship with HONEYWELL, including CUSTOMER, CUSTOMER's contractors or subcontractors, CUSTOMER's tenants or CUSTOMER's visitors. CUSTOMER agrees to cause its contractors, subcontractors and tenants to comply fully with all applicable federal, state and municipal laws and regulations governing health and safety and to comply with all reasonable requests and directions of HONEYWELL for the elimination or abatement of any such health or safety hazards at the site of the work.

### **2.3 Patent Indemnity**

**2.3.1** HONEYWELL shall, at its expense, defend or, at its option, settle any suit that may be instituted against CUSTOMER for alleged infringement of any United States patents related to the hardware manufactured and provided by HONEYWELL, provided that: 1. Such alleged infringement consists only in the use of such hardware by itself and not as part of, or in combination with, any other devices, parts or software not provided by HONEYWELL hereunder; 2. CUSTOMER gives HONEYWELL immediate notice in writing of any such suit and permits HONEYWELL, through counsel of its choice, to answer the charge of infringement and defend such suit; and 3. CUSTOMER gives HONEYWELL all needed information, assistance and authority, at HONEYWELL's expense, to enable HONEYWELL to defend such suit.

**2.3.2** If such a suit has occurred, or in HONEYWELL's opinion is likely to occur, HONEYWELL may, at its election and expense: obtain for CUSTOMER the right to continue using such equipment; or replace, correct or modify it so that it is not infringing; or remove such equipment and grant CUSTOMER a credit therefore, as depreciated.

**2.3.3** In the case of a final award of damages in any such suit, HONEYWELL will pay such award. HONEYWELL shall not, however, be responsible for any settlement made without its written consent.

**2.3.4 THIS ARTICLE STATES HONEYWELL'S TOTAL LIABILITY AND CUSTOMER'S SOLE REMEDY FOR ANY ACTUAL OR ALLEGED INFRINGEMENT OF ANY PATENT BY THE HARDWARE MANUFACTURED AND PROVIDED BY HONEYWELL HEREUNDER. IN NO EVENT SHALL HONEYWELL BE LIABLE FOR ANY INDIRECT, SPECIAL OR CONSEQUENTIAL**

**DAMAGES RESULTING FROM ANY SUCH ACTUAL OR ALLEGED INFRINGEMENT, EXCEPT AS SET FORTH IN THIS SECTION 2.3.**

**2.4 Warranties and Completion**

**2.4.1** HONEYWELL warrants CUSTOMER good and clear title to all equipment and materials furnished to CUSTOMER pursuant to this Agreement free and clear of liens and encumbrances.

HONEYWELL hereby warrants that all such equipment and materials shall be of good quality and shall be free from defects in materials and workmanship, including installation and setup, for a period of one (1) year from the date of Substantial Completion (as defined in Section 6.2.1 below) of the equipment or portion of the Work in question, provided that no repairs, substitutions, modifications, or additions have been made, except by HONEYWELL or with HONEYWELL's written permission, and provided that after installation such equipment or materials have not been subjected by non-HONEYWELL personnel to accident, neglect, misuse, or use in violation of any instructions supplied by HONEYWELL.

HONEYWELL's sole liability and obligation hereunder, exclusive of performance guarantees described in Attachment F, shall be to repair promptly or replace defective equipment or materials, at HONEYWELL's option and at HONEYWELL's expense. The limited warranty contained in this Section 2.4.1 shall constitute the exclusive remedy of CUSTOMER and the exclusive liability of HONEYWELL for any breach of any warranty related to the equipment and materials furnished by HONEYWELL pursuant to this Agreement.

**2.4.2** In addition to the warranty set forth in Section 2.4.1 above, HONEYWELL shall assign to CUSTOMER any and all manufacturer's or installer's warranties for equipment or materials not manufactured by HONEYWELL and provided as part of the Work, to the extent that such third-party warranties are assignable and extend beyond the one (1) year limited warranty set forth in Section 2.4.1.

**2.4.3 THE WARRANTIES SET FORTH HEREIN ARE EXCLUSIVE, AND HONEYWELL EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES, WHETHER WRITTEN OR ORAL, IMPLIED OR STATUTORY, INCLUDING BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE EQUIPMENT AND MATERIALS PROVIDED HEREUNDER. HONEYWELL SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM, OR RELATING TO, THIS LIMITED WARRANTY OR ITS BREACH.**

**ARTICLE 3**  
**CUSTOMER'S RESPONSIBILITIES**

**3.1** CUSTOMER shall provide HONEYWELL full information regarding the requirements for the Work.

**3.2** CUSTOMER shall designate a representative who shall be fully acquainted with the Work, and who has authority to approve changes in the scope of the Work and render decisions promptly.

**3.3** CUSTOMER shall furnish to HONEYWELL all information regarding legal limitations, utility locations and other information reasonably pertinent to this Agreement, the Work and the Project.

**3.4** CUSTOMER shall secure and pay for all necessary governmental approvals, easements, assessments and charges required for the construction, use or occupancy of permanent structures or for permanent changes in existing facilities, including charges for legal and auditing services. Notwithstanding any provisions herein to the contrary and as set forth in section 2.2.1 herein, Honeywell shall secure all mechanical and electrical permits required for the work.

**3.5** If CUSTOMER becomes aware of any fault or defect in the Work, it shall give written notice thereof to HONEYWELL within five business days of the discovery of the fault or defect.

**3.6** The services and information required by paragraphs 3.1 through 3.4 shall be furnished by CUSTOMER prior to commencement of the Work, at CUSTOMER's expense and HONEYWELL shall be entitled to rely upon the accuracy and the completeness thereof.

**3.7** Prior to the commencement of the Work and at such future times as HONEYWELL shall reasonably deem appropriate, CUSTOMER shall furnish evidence in a form satisfactory to HONEYWELL that sufficient funds are

available and committed to pay for the Work. Unless such evidence is furnished, HONEYWELL is not required to commence or continue any Work. Further, if CUSTOMER does not provide such evidence, HONEYWELL may stop work upon twenty (20) days notice to CUSTOMER. The failure of HONEYWELL to insist upon the providing of this evidence at any one time shall not be a waiver of CUSTOMER's obligation to make payments pursuant to this Agreement, nor shall it be a waiver of HONEYWELL's right to request or insist that such evidence be provided at a later date.

### **3.8 RESERVED**

**3.9** In addition to the price set forth in Article 6 of this Agreement, CUSTOMER shall pay any present and future taxes or any other governmental charges now or hereafter imposed by existing or future laws with respect to the sale, transfer, use, ownership or possession of the Work or any Support Services provided hereunder, excluding taxes on Honeywell's net income. The CUSTOMER is a tax-exempt entity and will provide HONEYWELL with a copy of its tax-exempt certificate.

### **3.10 RESERVED**

**3.11 Tax-Related Cooperation.** CUSTOMER agrees to execute any documents and to provide additional reasonable cooperation to HONEYWELL related to HONEYWELL tax filings under Internal Revenue Code Section 179D. HONEYWELL will be designated the sole Section 179D beneficiary. Customer is a tax-exempt entity and will provide Honeywell with a copy of its tax-exempt certificate.

**3.12 Representations and Warranties.** CUSTOMER hereby represents and warrants to HONEYWELL that:

**3.12.1** CUSTOMER has all requisite power and authority necessary to authorize the execution and delivery of this Agreement and the performance of its obligations hereunder and is not prohibited from entering into this Agreement or discharging and performing all covenants and obligations on its part to be performed under and pursuant to this Agreement. The execution, delivery and performance of this Agreement by CUSTOMER and the selection of, and the award of this Agreement to, HONEYWELL have been duly authorized by all necessary action on the part of CUSTOMER and do not and will not require the consent of any trustee or holder of any indebtedness or other obligation of CUSTOMER, any other party to any other agreement with CUSTOMER or any other person or entity.

**3.12.2** The selection of and award of this Agreement to HONEYWELL, execution and delivery of this Agreement, performance of all services, actions and responsibilities contemplated herein, and fulfillment of and compliance by CUSTOMER with the provisions of this Agreement do not and will not conflict with or constitute a breach of or a default under CUSTOMER's charter, as adopted by the laws of the state in which CUSTOMER is located, or any other applicable law, rule, ordinance, code or regulation, including but not limited to government procurement, competitive bidding, public notice, open meetings, or prior appropriation requirements. This Agreement meets the requirements of and complies with the CUSTOMER's charter and all other applicable laws, rules, ordinances, codes, and regulations. CUSTOMER has properly and validly selected HONEYWELL and awarded this Agreement to HONEYWELL pursuant to and in reliance on such charter, laws, rules, ordinances, codes, and regulations.

**3.12.3** This Agreement has been duly executed and delivered by CUSTOMER. This Agreement is a legal, valid and binding obligation of CUSTOMER enforceable against CUSTOMER in accordance with its terms, except as such enforceability is limited by laws of general applicability limiting the enforcement of creditors' rights.

## **ARTICLE 4**

### **HAZARDOUS SUBSTANCES, MOLD AND UNSAFE WORKING CONDITIONS**

#### **4.1 Definitions**

**4.1.1** "Hazardous substance" includes all of the following, whether naturally occurring or manufactured, in quantities, conditions or concentrations that have, are alleged to have, or are believed to have an adverse effect on human health, habitability of a Site, or the environment: (a) any dangerous, hazardous or toxic pollutant, contaminant, chemical, material or substance defined as hazardous or toxic or as a pollutant or contaminant under state or federal law, and (b) any petroleum product, nuclear fuel or material, carcinogen, asbestos, urea formaldehyde, foamed-in-place insulation, polychlorinated biphenyl (PCBs), and (c) any other chemical or biological material or organism, that has, is alleged to have, or is believed to have an adverse effect on human health, habitability of a Site, or the environment.



**4.1.2** “Mold” means any type or form of fungus or biological material or agent, including mold, mildew, moisture, yeast and mushrooms, and any mycotoxins, spores, scents, or by-products produced or released by any of the foregoing. This includes any related or any such conditions caused by third parties.

**4.1.3** “Covered Equipment” means the equipment covered by the Services to be performed by HONEYWELL under this Agreement, and is limited to the equipment included in the respective work scope attachments.

## **4.2 Pre-existing Conditions**

**4.2.1** CUSTOMER has not observed or received notice from any source (formal or informal) of Hazardous Substances or Mold, either airborne or on or within the walls, floors, ceilings, heating, ventilation and air conditioning systems, plumbing systems, structure, and other components of the Site, or within furniture, fixtures, equipment, containers or pipelines in a Site.

**4.2.2** If any such materials, situations or conditions, whether disclosed or not, are in fact discovered by HONEYWELL or others and provide an unsafe condition for the performance of the work or Services, the discovery of the condition shall constitute a cause beyond HONEYWELL’S reasonable control and HONEYWELL shall have the right to cease the work or Services until the area has been made safe by CUSTOMER or CUSTOMER’S representative, at CUSTOMER’S expense. HONEYWELL shall have the right to delete the impacted work from this Agreement if CUSTOMER has not fully remediated the unsafe condition within ninety (90) days of discovery.

**4.2.3** CUSTOMER represents that CUSTOMER has not retained HONEYWELL to discover, inspect, investigate, identify, prevent or remediate Hazardous Substances or Mold or conditions caused by Hazardous Substances or Mold.

**4.2.4 TO THE FULLEST EXTENT ALLOWED BY LAW, CUSTOMER SHALL INDEMNIFY AND HOLD HONEYWELL HARMLESS FROM AND AGAINST ANY AND ALL CLAIMS AND COSTS OF WHATEVER NATURE, INCLUDING BUT NOT LIMITED TO, CONSULTANTS’ AND ATTORNEYS’ FEES, DAMAGES FOR BODILY INJURY AND PROPERTY DAMAGE, FINES, PENALTIES, CLEANUP COSTS AND COSTS ASSOCIATED WITH DELAY OR WORK STOPPAGE, THAT IN ANY WAY RESULTS FROM OR ARISES UNDER THE BREACH OF THE REPRESENTATIONS AND WARRANTIES IN THIS SECTION THE PRE-EXISTENCE OF MOLD OR A HAZARDOUS SUBSTANCE AT A SITE, OR THE OCCURRENCE OR EXISTENCE OF THE SITUATIONS OR CONDITIONS DESCRIBED IN THIS SECTION. THIS INDEMNIFICATION SHALL SURVIVE TERMINATION OF THIS AGREEMENT FOR WHATEVER REASON.**

## **4.3 Operation and Maintenance of Covered Equipment**

**4.3.1** HONEYWELL shall, if provided by the manufacturer, provide to the CUSTOMER the manufacturers’ current recommended operating and maintenance practices for Covered Equipment with respect to temperature, humidity and ventilation settings, if any, that may help to avoid or minimize the potential for accumulation, concentration, growth or dispersion of any Hazardous Substance or Mold.

**4.3.2** HONEYWELL is not responsible for determining whether the Covered Equipment or the temperature, humidity and ventilation settings used by CUSTOMER, are appropriate for CUSTOMER and the Site with respect to avoiding or minimizing the potential for accumulation, concentration, growth or dispersion of any Hazardous Substance or Mold.

## **ARTICLE 5** **SUBCONTRACTS**

**5.1** A Subcontractor is a person or entity who has a direct contract with HONEYWELL to perform any effort in connection with the Work. The term Subcontractor does NOT include any separate contractors employed by CUSTOMER or such separate contractors’ subcontractors.

**5.2** HONEYWELL may subcontract some or all of the Work with authorization in writing from CUSTOMER approving use of a subcontractor for a specified portion of the Work. Subcontractors that may be employed by HONEYWELL and that have already been authorized by CUSTOMER are identified in Exhibit 1 attached hereto. In the event that HONEYWELL proposes to employ a subcontractor not listed on Exhibit 1, HONEYWELL will provide CUSTOMER with the name and contact information of the proposed subcontractor, qualifications, and the responsibilities that proposed subcontractor would undertake, and CUSTOMER shall be given 10 business days to

approve or reject the use of such subcontractor in writing. Any rejection of a subcontractor shall include the reason for rejection. In the event the CUSTOMER does not approve or reject in writing within 10 business days the subcontractor will be deemed to be approved. In the event CUSTOMER notifies HONEYWELL of objections or concerns regarding a proposed subcontractor, HONEYWELL will work to resolve the issue in a way acceptable to both Parties, either by contracting with an alternative subcontractor, if practical, or by otherwise addressing the CUSTOMER's concerns.

**5.2.1** HONEYWELL shall notify CUSTOMER if it intends to dismiss an approved subcontractor that is engaged in the Work.

**5.3** For the purposes of this Agreement, no contractual relationship shall exist between CUSTOMER and any Subcontractor. HONEYWELL shall be responsible for the management of its Subcontractors in their performance of their Work. HONEYWELL shall provide the Customer's designated representative with contact information so that the HONEYWELL project manager and his staff may be contacted by cell phone as needed. HONEYWELL will respond to phone calls from the Customer's designated representative within 4 hours.

**5.4** HONEYWELL shall provide a payment bond and performance bond pursuant to the provisions of Conn. Gen. Stat. §49-41, et seq., as amended.

## **ARTICLE 6**

### **INSTALLATION AND CUSTOMER ACCEPTANCE**

#### **6.1 Installation Schedule**

**6.1.1** The Work to be performed under this Agreement shall be commenced and substantially completed as set forth in the Installation Schedule attached hereto as Attachment C.

**6.1.2** If HONEYWELL is delayed at any time in the progress of performing its obligations under this Agreement by any act of CUSTOMER or any contractor employed by CUSTOMER; or by changes ordered or requested by CUSTOMER in the Work performed pursuant to this Agreement; or by labor disputes, fire, unusual delay in transportation, adverse weather conditions or other events or occurrences which could not be reasonably anticipated; or unavoidable casualties; or any other problem beyond HONEYWELL's reasonable control (an "Excusable Delay"), then the time for performance of the obligations affected by such Excusable Delay shall be extended by the period of any delay actually incurred as a result thereof.

In the event of any such delays or interruptions, HONEYWELL shall not seek, request or claim any delay damages, including, but not limited to, unallocated overhead expenses and/or home office expenses. However, in the event that such a delay directly results in additional documented costs to HONEYWELL for the work described in Attachment A, hereto, Honeywell may submit a proposed change order to CUSTOMER itemizing and documenting each additional cost, which change order will be subject to review and approval of the CUSTOMER. Any such approval must be in writing, signed by the CUSTOMER'S designated representative.

#### **6.2 Substantial Completion**

**6.2.1** "Substantial Completion" is the stage in the progress of the Work where an energy savings measure ("ESM") has been installed by HONEYWELL per factory guidelines, manufacturer's specifications, Attachment A, and the ESM design documents, as appropriate, that have been reviewed and approved by CUSTOMER. Further, a representative from the manufacturer or supplier has tested the equipment and confirmed proper operation and functioning, and the applicable start-up checklist has been completed by HONEYWELL and provided to CUSTOMER. HONEYWELL shall provide notice to CUSTOMER five (5) business days prior to the testing of the equipment and allow CUSTOMER or CUSTOMER's representative to witness the testing if they elect to do so. Further, CUSTOMER personnel have been trained by HONEYWELL in the proper operation and maintenance of the ESM, and HONEYWELL has provided CUSTOMER with written documentation of the ESM, including manufacturer's operation and maintenance requirements, agreed to set points and schedules (for controls equipment), the applicable start-up checklist, and copies of all applicable warranties.

**6.2.2** Upon Substantial Completion of an ESM, HONEYWELL shall provide Delivery and Acceptance Certificates for Substantial Completion in the form set forth in Attachment J (the "Delivery and Acceptance Certificates for Substantial Completion") for the subject Work. Upon receipt of each Delivery and Acceptance Certificate for Substantial Completion, CUSTOMER shall promptly inspect the Work performed by HONEYWELL identified therein, including reviewing all required documentation thereof, and execute each such Delivery and

Acceptance Certificate as soon as reasonably possible, but in no event later than fifteen business (15) days after delivery of the same by HONEYWELL, unless CUSTOMER provides HONEYWELL with either written notice requesting an additional 5 days to perform the inspection or a written statement identifying specific material performance deficiencies that it wishes HONEYWELL to correct. HONEYWELL will correct all material deficiencies and will give written notice to CUSTOMER when all such items have been corrected, at which point the CUSTOMER will have fifteen (15) days to confirm that deficiencies have been corrected prior to the CUSTOMER executing a Delivery and Acceptance Certificate for Substantial Completion. In the event CUSTOMER does not execute the Certificate for Substantial Completion within 15 days from receipt (or 20 days when the time period for inspection has been extended) or from notice of HONEYWELL's correction of deficiencies the Certificate of Substantial Completion shall be deemed to have been signed by CUSTOMER.

**6.2.3** Upon CUSTOMER execution of a Delivery and Acceptance Certificate for Substantial Completion for an ESM, the warranty period for that ESM shall commence, and CUSTOMER shall have responsibility for operation and maintenance of Covered Equipment related to such ESM per manufacturer's requirements and other operating conditions specified and agreed to in these Contract Documents.

### **6.3 Final Completion**

**6.3.1** "Final Completion" is the stage in the progress of the Work where all ESMs have been installed, are Substantially Complete, and have been fully commissioned to the satisfaction of the CUSTOMER; CUSTOMER personnel have been fully trained by HONEYWELL in the proper operation and maintenance of the ESMs; HONEYWELL has completed utility rebate applications for ESMs, as appropriate, and has provided the rebate documentation to the CUSTOMER for submission to the utility; and HONEYWELL has provided complete ESM documentation for all ESMs to the customer including, but not limited to as appropriate, commissioning reports, manufacturer's warranties, proper operation and maintenance, and as-built drawings and specifications. Execution and delivery by CUSTOMER of such Final Delivery and Acceptance Certificate with respect to the Work shall constitute "Final Acceptance" of such Work performed by HONEYWELL pursuant to the Installation Schedule.

**6.3.2** Upon execution delivery by CUSTOMER of such Final Delivery and Acceptance Certificate, the first Guarantee Year, in accordance as described in Article 7 and Attachment F, shall commence.

## **ARTICLE 7** **HONEYWELL PERFORMANCE GUARANTEES**

### **7.1 Annual Savings**

**7.1.1** For the period specified and as described in Attachment F, HONEYWELL shall guarantee to CUSTOMER that the completed Work as detailed in Attachment A and the Contract Documents will result in annual Energy Savings and Operational Savings in accordance with Attachments D and F.

### **7.2 Measurement and Verification of Annual Savings**

**7.2.1** Using procedures and methods specified in the Contract Documents, HONEYWELL shall confirm whether guaranteed Annual Savings have been achieved and submit a report annually to CUSTOMER that verifies and quantifies the Annual Savings.

**7.2.2** CUSTOMER may employ its own independent agent to measure and verify Annual Savings achieved, consistent with procedures and methods specified in the Contract Documents, and/or review annual reports submitted to CUSTOMER by HONEYWELL for accuracy.

### **7.3 Savings Shortfalls**

**7.3.1** As further described in Attachment F, HONEYWELL shall reimburse CUSTOMER annually for guaranteed Annual Savings shortfalls.

## **ARTICLE 8** **PRICE AND PAYMENT**

### **8.1 Price**

**8.1.1** The Honeywell Not to Exceed price for the Work is Ten Million Three Hundred Forty Six Thousand Eight Hundred Eighty Seven Dollars (\$10,346,887.00), subject to adjustments set forth in the Contract Documents and the CUSTOMER controlled contingency is Five Hundred Seventeen Thousand Three Hundred Forty Four Dollars (\$517,344) resulting in a total project price of Ten Million Eight Hundred Sixty Four Thousand Two Hundred Thirty One Dollars (\$10,864,231) not including amounts budgeted for Peregrine's fee and the Library Gas Piping expense. The Honeywell Not to Exceed price contains agreed-to ESCO service fees, markups, and hard costs for each ESM as shown in the Exhibit E-1 Schedule of Values. Honeywell shall provide refreshed subcontract material pricing on the ESM 1 Lighting Upgrades material-only prior to final submittal approval and material order which may result in a Change Order per Article 9 of this Agreement.

**8.1.1.1** In the event the CUSTOMER does not expend all of the funds in the CUSTOMER controlled contingency the remaining unspent funds belong to CUSTOMER.

**8.1.2** The total price for Support Services is set forth in Attachment D hereto, subject to the adjustments described therein.

**8.1.3** The price is based upon laws, codes and regulations in existence as of the date this Agreement is executed. Any changes in or to applicable laws, codes and regulations affecting the cost of the Work shall be the responsibility of CUSTOMER and shall entitle HONEYWELL to an equitable adjustment in the price and schedule.

**8.1.4** The price may be modified for delays caused by CUSTOMER and for Changes in the Work, subject to CUSTOMER authorization of Change Orders, all pursuant to Section 6.1 and Article 9.

**8.1.5** The license fees for all licensed software identified in Attachment B, if applicable, are included in the price to be paid by CUSTOMER as identified in this Article 8.

## **8.2 Payment**

**8.2.1** Upon execution of this Agreement, CUSTOMER shall pay or cause to be paid to HONEYWELL the full price for the Work in accordance with the Payment Schedule, Attachment E. CUSTOMER shall make payments for the Support Services in accordance with Attachment D.

**8.2.2** In the event CUSTOMER disputes any charges for invoiced Work or determines that the Work completed with respect to particular ESMs is not satisfactory, CUSTOMER may withhold payment of disputed amounts and notify HONEYWELL promptly regarding the disputed amount and the reason for the dispute so that HONEYWELL can remediate the issue as necessary.

## **ARTICLE 9** **CHANGES IN THE PROJECT**

**9.1** A Change Order is a written authorization signed by CUSTOMER and HONEYWELL approving a change in the Work or adjustment in the price, or a change to the Installation Schedule described in Attachment C.

**9.2** RESERVED

### **9.3 Claims for Concealed or Unknown Conditions**

If conditions are encountered at the site by HONEYWELL that are (1) subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents, or (2) unknown physical conditions of an unusual nature, which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, and which HONEYWELL could not have identified through exercising due diligence during ESM development and design, then notice by HONEYWELL shall be given to CUSTOMER promptly before conditions are disturbed and in no event later than ten (10) days after first observance of the conditions. HONEYWELL shall not proceed to remedy or address the conditions without written authorization by CUSTOMER, except in an Emergency situation as described in Section 9.5. If HONEYWELL wishes to make a claim for an increase in the Price or an extension in the Installation Schedule it shall give CUSTOMER written notice thereof within twenty (20) days after the occurrence of the event giving rise to such claim. This notice shall be given by HONEYWELL before proceeding to execute the Work, except in an Emergency endangering life or property. If appropriate, an equitable adjustment to the Contract Price and Installation Schedule shall be made by a Change Order. In the event CUSTOMER elects to reduce the Work scope to avoid disturbing and remediating a concealed condition, HONEYWELL shall calculate

for CUSTOMER the amount of the proportional Price and savings reduction associated with the scope reduction and such changes to the contract will be documented with a Change Order signed by both parties. If agreement cannot be reached by the Parties, the party seeking an adjustment in the Price or Installation Schedule may assert a claim in accordance with Section 9.4.

**9.4** If HONEYWELL wishes to make a claim for an increase in the Price or an extension in the Installation Schedule it shall give CUSTOMER written notice thereof within a reasonable time after the occurrence of the event giving rise to such claim. This notice shall be given by HONEYWELL before proceeding to execute the Work, except in an Emergency endangering life or property. For purposes of this Agreement, "Emergency" means an unforeseen circumstance or combination of circumstances that calls for immediate action without time for full deliberation. In the event of an Emergency related to or impacting the equipment provided under this Agreement the party discovering or becoming aware of the Emergency shall call the designated representative of the other party to provide notice of the situation. The notifying party shall provide written notice of the Emergency to the other party within 10 days following the cessation of the Emergency. In any Emergency affecting the safety of persons or property, a party shall act, at its discretion, to prevent threatened damage, injury or loss. Requests for changes in the installation schedule and for costs of such work shall be made no later than thirty (30) days after the delay. Increases based upon design and estimating costs with respect to possible changes requested by CUSTOMER shall be made within a reasonable time after the decision is made not to proceed with the change. No such claim shall be valid unless so made. If CUSTOMER and HONEYWELL cannot agree on the amount of the adjustment in the Price, or the Installation Schedule, it shall be determined pursuant to the provisions of Article 14. Any change in the Price or the Installation Schedule resulting from such claim shall be authorized by Change Order.

**9.5** Any increase in the Price or extension of time claimed by HONEYWELL on account of Emergency work shall be determined as provided in Section 9.4.

## **ARTICLE 10**

### **INSURANCE, INDEMNITY, WAIVER OF SUBROGATION, AND LIMITATION OF LIABILITY**

#### **10.1 Indemnity**

**10.1.1** HONEYWELL agrees to indemnify and hold CUSTOMER, and CUSTOMER's consultants, agents and employees harmless from all claims for bodily injury and property damages [other than the Work itself and other property insured under Section 10.3.1] to the extent such claims result from or arise under HONEYWELL's negligent actions or willful misconduct in its performance of the Work or the Support Services. **PROVIDED THAT, NOTHING IN THIS ARTICLE SHALL BE CONSTRUED OR UNDERSTOOD TO ALTER THE LIMITATIONS OF LIABILITY CONTAINED IN THIS ARTICLE, ARTICLE 2, OR THE INDEMNIFICATION CONTAINED IN SECTION 4.2.4.**

**10.1.2** CUSTOMER shall indemnify and hold harmless HONEYWELL and HONEYWELL's consultants, agents and employees from and against all claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of, or resulting from, any act or omission of CUSTOMER or CUSTOMER's contractors, consultants, agents or employees.

**10.1.3** CUSTOMER shall require any other contractor who may have a contract on this project with CUSTOMER to perform work in the areas where Work will be performed under this Agreement to agree to indemnify CUSTOMER and HONEYWELL and hold them harmless from all claims for bodily injury and property damage [other than property insured under Paragraph 10.4] that may arise from that contractor's operations. Such provisions shall be in a form satisfactory to HONEYWELL.

#### **10.2 Contractor's Liability Insurance**

HONEYWELL shall, at its own expense, carry and maintain in force at all times from the signature date of the Contract through final completion of the work the following insurance. Honeywell will not issue coverage on a per project basis. It is agreed, however, that HONEYWELL has the right to insure or self-insure any of the insurance coverages listed below:

- (a) Commercial General Liability Insurance to include contractual liability, products/completed operations liability with a combined single limit of USD \$5,000,000 per occurrence. Such policy will be written on an occurrence form basis;

- (b) If automobiles are used in the execution of the Contract, Automobile Liability Insurance with a minimum combined single limit of USD \$5,000,000 per occurrence. Coverage will include all owned, leased, non-owned and hired vehicles.
- (c) Where applicable, "All Risk" Property Insurance, including Builder's Risk insurance, for physical damage to property which is assumed in the Contract.
- (d) Workers' Compensation Insurance Coverage A - Statutory limits and Coverage B-Employer's Liability Insurance with limits of USD \$1,000,000 for bodily injury each accident or disease.

**10.2.1** Prior to the commencement of the Contract, HONEYWELL will furnish evidence of said insurance coverage in the form of a Certificate of Insurance. All insurance required in this Article will be written by companies with a rating of no less than "A-, XII" by A.M. Best or equivalent rating agency. HONEYWELL will endeavor to provide a thirty (30) day notice of cancellation or non-renewal to the Customer. In the event that a self-insured program is implemented, HONEYWELL will provide adequate proof of financial responsibility.

### **10.3. CUSTOMER's Liability Insurance**

**10.3.1** CUSTOMER shall be responsible for purchasing and maintaining its own liability insurance, property insurance to protect the project, and, at its option, may purchase and maintain such insurance as will protect it against claims that may arise from operations under this Agreement.

### **10.4 RESERVED**

### **10.5 Property Insurance Loss Adjustment**

**10.5.1** Any insured loss shall be adjusted with CUSTOMER and HONEYWELL and made payable to CUSTOMER and HONEYWELL as trustees for the insureds, as their interests may appear, subject to any applicable mortgage clause.

**10.5.2** Upon the occurrence of an insured loss, monies received will be deposited in a separate account and the trustees shall make distribution in accordance with the agreement of the parties in interest, or in the absence of such agreement, in accordance with an arbitration award pursuant to Article 14. If the trustees are unable to agree between themselves on the settlement of the loss, such dispute shall also be submitted to arbitration pursuant to Article 14.

### **10.6 Limitation of Liability**

**10.6.1 IN NO EVENT SHALL EITHER PARTY BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, SPECULATIVE, REMOTE, OR CONSEQUENTIAL DAMAGES ARISING FROM, RELATING TO, OR CONNECTED WITH THE WORK, SERVICES, EQUIPMENT, MATERIALS, OR ANY GOODS PROVIDED HEREUNDER.**

## **ARTICLE 11** **TERMINATION OF THE AGREEMENT**

**11.1** If HONEYWELL defaults in, or fails or neglects to carry forward the Work in accordance with this Agreement, CUSTOMER may provide notice in writing of its intention to terminate this Agreement to HONEYWELL. If HONEYWELL has not, within thirty (30) business days after receipt of such notice, acted to remedy and make good such deficiencies, CUSTOMER may terminate this Agreement and take possession of the site together with all materials thereon, and move to complete the Work itself expediently. CUSTOMER shall pay HONEYWELL for work completed up to the time of termination. In the event that the cost to complete the Work exceeds the Price set forth in Article 8, herein, HONEYWELL shall pay such excess costs to the CUSTOMER..

**11.2** If CUSTOMER fails to make payments as they become due, or otherwise defaults or breaches its obligations under this Agreement, HONEYWELL shall give written notice to CUSTOMER of the specific default or breach and of CUSTOMER's need to rectify the same. If, within thirty (30) days following receipt of such notice, CUSTOMER fails to make the payments then due, or otherwise fails to cure or perform its obligations, HONEYWELL may, by written notice to CUSTOMER, terminate this Agreement and recover from CUSTOMER payment for Work executed and for losses sustained for materials, tools, construction equipment and machinery, including but not limited to, reasonable profit and applicable damages.

**ARTICLE 12**  
**ASSIGNMENT AND GOVERNING LAW**

**12.1** This Agreement shall be governed by the law of the State of Connecticut.

**12.2** Neither party to the Agreement shall assign this Agreement or sublet it as a whole or in part without the written consent of the other party. Such consent shall not be unreasonably withheld, except that HONEYWELL may employ the subcontractors listed on Exhibit 1 and assign to another party the right to receive payments due under this Agreement.

**ARTICLE 13**  
**MISCELLANEOUS PROVISIONS**

**13.1** The Table of Contents and headings in this Agreement are for information and convenience only and do not modify the obligations of this Agreement.

**13.2 Confidentiality.** As used herein, the term "CONFIDENTIAL INFORMATION" shall mean any information in readable form or in machine-readable form, including software supplied to CUSTOMER by HONEYWELL, that has been identified or labeled as "Confidential" and/or "Proprietary" or with words of similar import. CONFIDENTIAL INFORMATION shall also mean any information that is disclosed orally and is designated as "Confidential" and/or "Proprietary" or with words of similar import at the time of disclosure and is reduced to writing, marked as "Confidential" and/or "Proprietary" or with words of similar import, and supplied to the receiving party within ten (10) days of disclosure.

Subject to the provisions of the Connecticut Freedom of Information Act, all rights in and to CONFIDENTIAL INFORMATION and to any proprietary and/or novel features contained in CONFIDENTIAL INFORMATION disclosed are reserved by the disclosing party; and the party receiving such disclosure will not use the CONFIDENTIAL INFORMATION for any purpose except in the performance of this Agreement and will not disclose any of the CONFIDENTIAL INFORMATION to benefit itself or to damage the disclosing party. This prohibition includes any business information (strategic plans, etc.) that may become known to either party.

Each party shall, upon request of the other party or upon completion or earlier termination of this Agreement, return the other party's CONFIDENTIAL INFORMATION and all copies thereof.

Notwithstanding the foregoing provisions, neither party shall be liable for any disclosure or use of information disclosed or communicated by the other party if the information:

- (a) is publicly available at the time of disclosure or later becomes publicly available other than through breach of this Agreement; or
- (b) is known to the receiving party at the time of disclosure; or
- (c) is subsequently rightfully obtained from a third party on an unrestricted basis; or
- (d) is approved for release in writing by an authorized representative of the disclosing party.

The obligation of this Article shall survive any expiration, cancellation or termination of this Agreement.

**13.3** Risk of loss for all equipment and materials provided by HONEYWELL hereunder shall transfer to CUSTOMER upon installation at CUSTOMER's Facilities by HONEYWELL or its Subcontractor. Title shall pass upon Final Acceptance or final payment by CUSTOMER to HONEYWELL, whichever occurs later.

**13.4** Final notice or other communications required or permitted hereunder shall be sufficiently given if personally delivered to the person specified below, or if sent by registered or certified mail, return receipt requested, postage prepaid, addressed as follows:

To HONEYWELL:

HONEYWELL INTERNATIONAL INC.

712 Brook Street, Suite 106

Rocky Hill, CT 06067

Attention: Branch Manager

To CUSTOMER:  
Town of Enfield  
820 Enfield Street  
Enfield CT 06082  
Attention: Town Manager

**13.5 Waiver.** HONEYWELL's failure to insist upon the performance or fulfillment of any of CUSTOMER's obligations under this Agreement shall not be deemed or construed as a waiver or relinquishment of the future performance of any such right or obligation hereunder.

**13.6 HONEYWELL (A) MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO ANY FINANCIAL PROJECTIONS, CASH FLOW MODELS, PRO FORMA FINANCIAL STATEMENTS OR OTHER DOCUMENTS, DATA OR INFORMATION PROVIDED BY OR ON BEHALF OF HONEYWELL TO CUSTOMER OR ITS REPRESENTATIVES PRIOR TO THE EXECUTION AND DELIVERY OF THIS AGREEMENT THAT ARE NOT INCLUDED IN THIS AGREEMENT, INCLUDING ITS ATTACHMENTS AND EXHIBITS (COLLECTIVELY, THE "PROJECTIONS"), AND (B) HEREBY DISCLAIMS ALL IMPLIED WARRANTIES WITH RESPECT TO SUCH PROJECTIONS. CUSTOMER HEREBY ACKNOWLEDGES AND AGREES THAT (i) HONEYWELL DOES NOT GUARANTEE THAT ANY RESULTS SET FORTH IN ANY PROJECTIONS WILL BE ACHIEVED, (ii) ACTUAL RESULTS MAY VARY MATERIALLY FROM THE PROJECTIONS, AND (iii) CUSTOMER HAS NOT RELIED UPON ANY SUCH PROJECTIONS IN DETERMINING TO ENTER INTO THIS AGREEMENT AND CONSUMMATE THE TRANSACTIONS CONTEMPLATED HEREBY.**

**13.7 Severability; Blue-Pencil.** The terms of this Agreement will, where possible, be interpreted and enforced so as to sustain their legality and enforceability, read as if they cover only the specific situation to which they are being applied and enforced to the fullest extent permissible under applicable law. If any term of this Agreement is determined to be invalid, illegal or incapable of being enforced, then all other terms of this Agreement will nevertheless remain in full force and effect, and such term automatically will be amended so that it is valid, legal and enforceable to the maximum extent permitted by applicable law, but as close to the parties' original intent as is permissible.

**13.8 HONEYWELL IS NOT, NOR IS HONEYWELL COMPENSATED AS, A MUNICIPAL ADVISOR OR FIDUCIARY ACTING ON CUSTOMER'S BEHALF. ANY AND ALL FINANCIAL AND OTHER INFORMATION PROVIDED ABOUT OR RELATING TO MUNICIPAL SECURITIES OR OTHER MUNICIPAL FINANCIAL PRODUCTS IS PROVIDED FOR GENERAL INFORMATIONAL AND EDUCATIONAL PURPOSES ONLY AND SHOULD NOT BE CONSTRUED AS ADVICE, IS PROVIDED "AS-IS" WITHOUT WARRANTY OF ANY KIND (EXPRESS OR IMPLIED) AND WITHOUT ANY REPRESENTATION WITH RESPECT TO ACCURACY OR COMPLETENESS, AND MUST NOT BE RELIED UPON IN CONNECTION WITH ANY SECURITIES, INVESTMENT OR FINANCIAL DECISION OR OTHER ACTION/INACTION. CUSTOMER SHOULD OBTAIN THE ADVICE OF A FINANCIAL ADVISOR, MUNICIPAL ADVISOR OR OTHER THIRD PARTY LICENSED AND QUALIFIED TO ADVISE YOU REGARDING ANY OF THE INFORMATION PROVIDED ABOUT, OR THE POTENTIAL SUITABILITY OF, MUNICIPAL SECURITIES OR MUNICIPAL FINANCIAL PRODUCTS.**

#### **ARTICLE 14** **ARBITRATION**

**14.1** With the exception of any controversy or claim arising out of or related to the installation, monitoring, and/or maintenance of fire and/or security systems, the Parties agree that any controversy or claim between HONEYWELL and CUSTOMER arising out of or relating to this Agreement, or the breach thereof, shall be settled and administered by arbitration in a neutral venue, conducted in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association.

Any award rendered by the arbitrator shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof. Any controversy or claim arising out of or related to the installation, monitoring, and/or maintenance of systems associated with security and/or the detection of, and/or reduction of risk of loss associated with fire shall be resolved in a court of competent jurisdiction.



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**APPROVALS**

The parties hereby execute this Agreement as of the date first set forth herein by the signatures of their duly authorized representatives:

**HONEYWELL INTERNATIONAL INC.****THE TOWN OF ENFIELD, CT**

By \_\_\_\_\_

By \_\_\_\_\_

Name Doreen Hamilton

Name \_\_\_\_\_

Title Energy Account ExecutiveTitle Town Manager

Date \_\_\_\_\_

Date \_\_\_\_\_

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## ATTACHMENT A SCOPE OF WORK

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### **PART 1 – GENERAL**

1. HONEYWELL will provide design engineering, drawings and specifications, construction supervision, inspection, labor, materials, tools, construction equipment, as-built drawings and other related documentation, operations and maintenance training, and subcontracted items necessary for the execution and completion of the Work.
2. The Honeywell IGA REPORT dated 07/27/15, referenced herein as Schedule A, contains scope descriptions, tables, drawings, and exhibits which further detail Honeywell's scope of work. Final design documents shall be prepared by Honeywell following contract execution and shall be submitted to CUSTOMER for review and acceptance prior to starting construction of each ESM. Final design documentation, as approved by CUSTOMER, shall take precedence over the IGA REPORT design.
3. Project contingency shall be managed by CUSTOMER outside of Honeywell's project price and applied at CUSTOMER'S sole discretion. Contingency may be used by CUSTOMER to cover project-related expenses that are not included in HONEYWELL's project price (Attachment E).
4. HONEYWELL will secure construction permits as necessary for the Work. All permit fees controlled by the Institution will be waived
5. Honeywell's scope and price are valid until November 30<sup>th</sup>, 2015 after which time Honeywell reserves the right to make adjustments to scope and pricing.
6. HONEYWELL shall complete rebate applications for the CUSTOMER providing necessary documentation as required by the Utility in the form of calculations, design documents, and forms as required for rebate applications, submit those applications on CUSTOMER'S behalf, and assist CUSTOMER in discussions and negotiations with the utility required to secure approval of rebate applications.
7. HONEYWELL shall keep the premises in an orderly fashion and clean up and remove waste materials or rubbish caused by its operations at the end of each workday, unless otherwise agreed to in writing by CUSTOMER. If HONEYWELL damages property not needed for the Work, HONEYWELL shall repair the property to its pre-existing condition unless CUSTOMER directs otherwise. At the completion of the Work, HONEYWELL shall remove any remaining waste material caused by the Work as well as all its tools, construction equipment, machinery and surplus material. Waste shall be disposed of as follows:
  - (a) Construction Waste and/or Non-hazardous Waste: Construction waste (cardboard, metal, wood crates, plastic, wiring, etc.), and/or non-hazardous waste (non-PCB ballast's, lamps, batteries, etc.), shall be removed offsite by Honeywell or its subcontractors for disposal and/or recycling. The Customer's name and address shall be listed on the shipping documents as the owner/generator of the waste. The transportation of waste materials will meet local regulatory requirements.
  - (b) Hazardous Waste: If and to the extent Honeywell is responsible for removal of hazardous waste pursuant to the express provisions of this Scope of Work, Honeywell or its subcontractors shall contract with a licensed transporter for the removal of the applicable hazardous waste (PCB's, mercury, asbestos, etc.). The Customer's name and address shall be listed on the shipping documents as the owner/generator of the waste. The transportation of waste materials will meet local regulatory requirements.
8. HONEYWELL shall give all notices and comply with all laws and ordinances legally enacted as of the date of execution of the Agreement governing the execution of the Work. Provided, however, that HONEYWELL shall not be responsible nor liable for the violation of any code, law or ordinance caused by CUSTOMER or existing in CUSTOMER's property prior to the commencement of the Work.
9. HONEYWELL shall comply with all applicable federal, state and municipal laws and regulations that regulate the health and safety of its workers while providing the Work, and shall take such measures as required by those laws and regulations to prevent injury and accidents to other persons on, about or adjacent to the site of the Work. It is understood and agreed, however, that HONEYWELL shall have no responsibility for elimination or abatement of health or safety hazards created or otherwise resulting from activities at the site of the Work carried on by persons not in a contractual relationship with HONEYWELL, including CUSTOMER, CUSTOMER's contractors or subcontractors, CUSTOMER's tenants or CUSTOMER's visitors. CUSTOMER agrees to cause its contractors, subcontractors and tenants to comply fully with all applicable federal, state and municipal laws and regulations governing health and safety and to comply with all reasonable requests and

directions of HONEYWELL for the elimination or abatement of any such health or safety hazards at the site of the work.

10. If Honeywell encounters any materials or substances classified as toxic or hazardous in performance of the Work, including but not limited to asbestos, lead based paint or lead contaminated materials, Honeywell will notify Customer and will stop work in that area until such area has been made safe by the Customer, or Customer's Representative, at Customer's expense. In the event that such hazardous materials are encountered during the project, Customer's abatement of the materials must be executed in conformance with USEPA, HUD and other applicable regulations. CUSTOMER may elect to adjust the scope of work, deleting a portion or all of an ESM if CUSTOMER determines that the expense of remediation does not make sense economically. In the event such discovered conditions cause a delay in Honeywell's performance, Honeywell shall be entitled to request recovery of additional costs associated with such delay, as well as an extension of time of performance.
11. Where demolition of certain areas of a building are required for removal and installation of equipment and that demolition is included in the scope of work defined herein, Honeywell will make every effort to replace such areas with similar materials as available. If such materials are not available, HONEYWELL shall consult with CUSTOMER to identify materials of similar quality acceptable to CUSTOMER and such materials will be supplied and installed.
12. Honeywell shall only be responsible for repairing existing electrical wiring problems that occur within three feet (36 inches) of the device being installed or the nearest wall or ceiling penetration, whichever is smaller. Honeywell is not responsible for bringing existing lighting/electrical systems up to code. CUSTOMER may elect to delete a portion of the lighting scope of work in the event the discovery of sub-code lighting/electrical systems will result in additional costs to the CUSTOMER for remediation/repair of such conditions.
13. Honeywell shall only be responsible for repairing existing piping problems that occur within two feet (24 inches) of the device being installed or the nearest wall or ceiling penetration, whichever is smaller. Piping includes, but is not limited to, domestic hot and cold water, cooling cold water, heating hot water, condensate, fuel oil, and cooling tower condensing water.
14. Routine maintenance such as vacuuming, coil cleaning and filter change of air handling devices, etc. is the responsibility of the Customer, or as included in Attachment D.
15. If new utility meters are required, provision and coordination of utility meters is the responsibility of the customer.
16. TCP/IP: CUSTOMER is responsible for implementation and costs for remote Honeywell access through CUSTOMER's firewall(s) to the controllers and front-end computer(s) by one (1) Measurement and Verification Specialist.
17. Efficiency Values: Honeywell will install equipment and lighting components (hereto referred as "equipment") under the scope described herein with specific energy and water efficiency values. The customer is required to replace any failed "equipment" no longer warranted by Honeywell or a Honeywell subcontractor, with "equipment" of equal or greater efficiency for the full contract guarantee term.
18. The following areas are specifically excluded from this Scope of Work. Correction of problems in these areas, if required by Federal, State or local law or ordinance, will be considered additional work and will be chargeable (with approval) to the Customer.
  - a. Any work not specifically stated and outlined in this Scope of Work.
  - b. Painting and patching of areas beyond those areas directly related to work.
  - c. Existing non-code conditions (examples: existing electrical wiring which requires correction or approval by appropriate inspectors, existing penetrations in need of fire stopping, etc).

## PART 2 – PRODUCTS & EXECUTION

### ESM #1: Lighting and Lighting Controls (LED)

The following table is a summary of facilities included for lighting upgrades:

LOCATION
<b>School Facilities</b>
JFK Middle School
Eli Whitney School
Hazardville Memorial School
Nathan Hale School
Henry Barnard School
Edgar Parkman School
Prudence Crandall School
Enfield Street School
Thomas Alcorn School
Harriet Beecher Stowe School
Head Start
<b>Town Facilities</b>
Emergency Medical Services
Enfield Senior Center
Pearl Street Library
Lamagna Activity Center
Enfield Town Hall
Department of Public Works
Enfield Police Department
Adult Day Care
Family Resource Center
Buildings and Grounds

*Table A-1*

#### **Scope of Work**

- 1) Honeywell shall provide equipment, materials and labor to implement the lighting retrofit, lighting controls and vending miser controls project as specified in the IGA REPORT Exhibit 5 Lighting Line by Line.
- 2) Post retrofit light levels shall meet or exceed IES light levels only as stated in the IGA REPORT Exhibit 12, Table 2.
- 3) Honeywell shall coordinate lighting retrofit activities with the customer to minimize classroom/office and school activity disruptions.
- 4) Honeywell shall provide for the legal and proper disposal or recycling of replaced fixtures, lamps, and ballasts.
- 5) Repair or replacement of fixture lenses is not included.
- 6) Any lighting not identified on the Lighting Line by Line is excluded. Honeywell shall provide a proposal for any work not included at the request of Customer.
- 7) Provide Town with 2% maintenance stock.

#### **Warranty:**

The Honeywell warranty for all lighting work operates by the Customer sending the failed material back to the manufacturer and in return new material will be provided to be installed by the Customer's work force. The lamps, ballasts, and fixtures include the following manufacturer warranties:

- a) Linear LED lamps are covered by a manufacturer warranty for a period of five years.
- b) Screw in PAR and A-Line LED lamps are covered by a manufacturer warranty for a period of three years.

- c) LED fixtures are covered by a manufacturer warranty for a period of five years with exceptions as follows:
  - 1. Cree LED fixtures are covered by a manufacturer warranty for a period of ten years
  - 2. Relume LED fixtures are covered by a manufacturer warranty for a period of seven years
- d) LED battery backup micro inverters are covered by a manufacturer warranty for a period of five years.

## ESM #2: Street Lighting Upgrades

Existing Lighting Description	Existing Qty	Proposed Lighting Description	Proposed Qty
High Pressure Sodium – 1,000 W	9	LED Cobrahead – 421 W	3
		LED Flood – 421 W	6
High Pressure Sodium – 100 W	708	LED Cobrahead – 42 W	673
		LED Post Top – 25 W	35
High Pressure Sodium – 150 W	104	LED Acorn – 60 W	57
		LED Cobrahead – 53 W	43
		LED Post Top – 25 W	4
High Pressure Sodium – 250 W	667	LED Cobrahead – 101 W	649
		LED Flood – 101 W	17
		LED Post Top – 25 W	1
High Pressure Sodium – 400 W	44	LED Cobrahead – 153 W	22
		LED Flood – 171 W	22
High Pressure Sodium – 50 W	1	LED Cobrahead – 25 W	1
High Pressure Sodium – 70 W	2,150	LED Cobrahead – 25 W	2,137
		LED Post Top – 25 W	13
Metal Halide – 1,000 W	1	LED Spot Flood – 421 W	1
Metal Halide – 175 W	2	LED Cobrahead – 101 W	2
Metal Halide – 250 W	1	LED Flood – 101 W	1
Mercury Vapor – 100 W	1	LED Cobrahead – 42 W	1
Mercury Vapor – 250 W	1	LED Cobrahead – 101 W	1
Mercury Vapor – 400 W	2	LED Flood – 101 W	2

Table A-2

### Scope of Work

- 1) Existing street lighting fixtures consist of High Pressure Sodium (HPS), Metal Halide (MH), and Mercury Vapor (MV) lamps of various wattages. These will be upgraded to high efficiency Light Emitting Diode (LED) technology as detailed in the table above.
- 2) Honeywell shall provide equipment, materials, and labor to implement the street lighting upgrade project as specified in the IGA REPORT Street Lighting Line by Line Exhibit 6.
- 3) The scope is based upon retrofit of the existing lighting poles and standards inventory provided by Enfield during the IGA REPORT. Honeywell shall perform a GPS survey of Enfield's street lights to provide a verified inventory with electronic GPS mapping and coordinated line by line. Honeywell's scope does not include repairs or replacement of existing light poles or retrofit of fixtures outside of those specified in Exhibit 6. Honeywell shall provide a proposal for any additional work identified and Customer has the option of adding to the scope of work by Change Order.
- 4) Provide and install up to five (5) separate mock-ups to represent the various area types (residential, commercial, industrial, public works, major intersection). Each mock-up shall include up to eight fixtures to allow for photo metric testing and design documentation which demonstrates compliance with IES standards. Pre and Post photometric testing shall be completed at each mock up location and approved by Enfield prior to the installation of remaining street lights.
- 5) Coordinate installation with Enfield Building Department and Department of Transportation (DOT). Provide proper Maintenance of Traffic (MOT) plans, safety work plans, signage, cones, flaggers, and protections as

required by DOT for a safe installation. Coordinate with Enfield Police Department as required, Enfield Police and other Department labor not included

- 6) Installations will be completed on a first shift basis, Monday - Friday.
- 7) Existing poles are assumed to be structurally sound, no new poles or pole repairs are included.
- 8) Existing street lighting wiring is assumed to be in good condition, no new wiring or wiring repairs is included.

**Warranty:**

The Honeywell warranty operates by the Customer sending the failed material back to the manufacturer and in return new material will be provided to be installed by the Customer's work force. The lamps, ballasts, and fixtures include the following manufacturer warranties:

- a) LED Street/Area fixtures are covered by a manufacturer warranty for a period of ten years.
- b) Post-top LED fixtures are covered by a manufacturer warranty for a period of five years.

### **ESM #3: Boiler Replacements & Pump Upgrades**

Tables A-3.1 summarizes the hot water boiler replacements by building.

Building	HOT WATER BOILERS (or approved equal)							
	Boiler Make	Boiler Model	Qty	Capacity MBH	Fuel	Burner Make	Burner Model	Combustion Efficiency
Central Library	Lochinvar	KBN701	1	660	NG	Factory Mounted		91%
Town Hall	PK	C-1050	2	1,050	NG	Factory Mounted		91%
Adult Day Care	HB Smith	19A-4	1	413	#2 FO	Power Flame		83%
JFK Middle School	PK	C-4000	2	4,000	NG	Factory Mounted		91%
Eli Whitney School	PK	C-3000	1	3,000	NG	Factory Mounted		91%
Nathan Hale School	PK	C-2500	1	2,500	NG	Factory Mounted		91%
Edgar Parkman School	PK	C-3000	1	3,000	NG	Factory Mounted		91%

*Table A-3.1*

#### **Scope of Work – Hot Water Boiler Replacements**

- 1) Honeywell shall provide equipment, materials and labor to complete the hot water boiler replacement work as summarized in Table A-3.1 and further detailed on the 30% design drawings included in the IGA REPORT. Honeywell shall further develop 30% design drawings into permit-level construction documents required to secure construction permits through Enfield Building Department.
- 2) Disconnect piping, wiring and control connection to the existing hot water boilers
- 3) Demolish and legally dispose of existing boilers
- 4) Furnish and install new boilers and burners, complete with factory-installed BACnet controllers, as shown in table above for each location.
- 5) Furnish and install power wiring and reconnection of existing control wiring
- 6) Furnish and install new boiler combustion and exhaust piping for each new condensing boiler plant
- 7) Extend existing concrete housekeeping pads as required
- 8) Furnish and install new hot water piping headers and valves as required
- 9) Reconnect gas and oil piping as applicable
- 10) Customer is responsible to coordinate and install new gas utility, at Customer expense, with new service meter adjacent to existing boiler room outside wall. Utility is responsible to install meter pad, protective bollard, fencing as required at Customer expense.
- 11) At Central Library, furnish and install required natural gas piping from new utility installed service to the boiler room
- 12) Install new boiler exhaust flue for each new condensing boiler plant
- 13) Adult Day Care chimney will be inspected and cleaned as required during construction
- 14) Insulation of new piping and insulation on adjacent piping damaged during construction
- 15) Rigging
- 16) Startup, test and commission – startup to be performed by factory rep or factory certified technician.
- 17) Training of facility staff of operation of new boilers

- 18) Any equipment not shown on the IGA REPORT 30% design drawings for all buildings other than Nathan Hale School and Edgar Parkman School is excluded. For Nathan Hale School and Edgar Parkman School, only the equipment listed above in Table A-3.1 is included. At the request of the Customer Honeywell shall provide a proposal to add any work not included.

Table A-3.2 is a listing of pumps and motors identified for replacement.

Building	PUMP/MOTOR UPGRADES		
	Equipment	Qty	Motor HP Each
Town Hall	CHW Pump 2	1	2.0
Town Hall	CHW Pump 3	1	2.0
Town Hall	CHW Pump 5	1	2.0
Town Hall	HW Pump 4	1	2.0
Town Hall	HW Pump 6	1	2.0
JFK Middle School	HW Pumps 1, 2, 3, & 4	4	5.0
Eli Whitney School	HW Pumps 1 & 2	2	5.0
Central Library*	HW Pump 2 & 2A	2	0.5

Table A-3.2

\*Note, these are new pumps serving the hot water reheats installed under ESM 4 detailed below

#### **Scope of Work – Pump Upgrades**

- 1) Honeywell shall provide equipment, materials and labor to complete the pump upgrade work as summarized in Table A-3.2 and further detailed on the 30% design drawings included in the IGA REPORT. Honeywell shall further develop 30% design drawings into permit-level construction documents required to secure construction permits through Enfield Building Department.
- 2) Disconnect piping, power and control wiring from existing pumps and motors
- 3) Remove and dispose of existing pumps and motors
- 4) Furnish and install new pumps with NEMA Premium efficiency motors as listed in the table above
- 5) Reconnect piping, power and control wiring to new pumps and motors
- 6) Align couplings to EASA standards
- 7) Any equipment not shown on the IGA REPORT 30% design drawings is excluded. At the request of Customer, Honeywell shall provide a proposal for any work not included.
- 8) Measure and verify the pre and post-retrofit voltage, amperage, and revolutions per minute (RPM).
- 9) Training of facility staff of operation of new equipment.

Table A-3.3 is a listing of steam boilers identified for replacement.

Building	STEAM BOILERS (or approved equal)							
	Boiler Make	Boiler Model	Qty	Capacity MBH	Fuel	Burner Make	Burner Model	Combustion Efficiency
Enfield Street School	HB Smith	28A-S-11	2	2,146	Dual	Power Flame		83%

Table A3.3

#### **Scope of Work – Steam Boiler Replacements**

- 1) Honeywell shall provide equipment, materials and labor to complete the steam boiler replacement work as summarized in Table A-3.2. Honeywell shall develop permit-level construction documents required to secure construction permits through Enfield Building Department.
- 2) Disconnect all piping, wiring, and control connection to the existing steam boilers listed in the Table 3.3 above.
- 3) Demolish and legally dispose of existing boilers.
- 4) Furnish and install boilers and burners as shown in Table 4-3.5 above for each location.
- 5) Furnish and install power wiring and reconnection of existing control wiring.
- 6) Extend existing concrete housekeeping pads as required.
- 7) Furnish and install new boiler feedwater tank and condensate receiver
- 8) Furnish and install new steam piping headers and valves as required



- 9) Reconnect gas and oil piping.
- 10) Insulation of new piping and insulation on adjacent piping damaged during construction
- 11) Rigging
- 12) Startup, test and commission – startup to be performed by factory rep or factory certified technician
- 13) Training of facility staff of operation of new boilers
- 14) At Customer's request, Honeywell shall provide a proposal for any work not included.

#### **ESM #4: Replace Multi-Zone AHU & Cooling System**

<b>CENTRAL LIBRARY – UNIT DATA (or approved equal)</b>	
Make:	Daikin
Model:	RPS050D
Voltage:	460/60/3
AHRI 360 Standard Efficiency:	9.8 EER / 14.6 IEER
ASHRAE 90.1:	2013 Compliant
Heat Type:	Natural Gas
Hot Gas Reheat:	Factory Mounted, Blow Thru
Condenser Type:	Air Cooled
<b>Features</b>	
0-100% Economizer with OA Dry Bulb & Enthalpy Control	
30% Nominal Efficiency, MERV 8 Filters	
Variable Volume Operation with VFD	
<b>Cooling Coil</b>	
Total Capacity:	613,656 BTUh
Sensible Capacity:	411,431 BTUh
Refrigerant Type:	R410A
Face Area:	39.5 square feet
<b>Natural Gas Heat Section</b>	
Heat Exchanger Material:	Type 321 Stainless Steel
Input:	1,000 MBH
Output:	800 MBH
Steady State Efficiency:	80%
<b>Supply Fan</b>	
Capacity:	14,000 CFM
Motor Size (ODP):	10.0 HP
Motor Efficiency:	91.7%
<b>Condensing Section</b>	
Compressors – 4 Total	18.6 FLA Each / 40.5 Total kW
Condenser Fans – 4 Total	2.1 Amps Each

*Table A-4*

#### **Scope of Work**

- 1) Honeywell shall provide equipment, materials and labor to complete the multi-zone AHU and cooling replacement work as summarized in Table A-4.1 and further detailed on the IGA REPORT 30% design drawings. Honeywell shall further develop 30% design drawings into permit-level construction documents required to secure construction permits through Enfield Building Department.
- 2) Disconnect ductwork, piping, wiring and control connections to the existing multi-zone AHU
- 3) Remove and dispose of existing multi-zone AHU, and chiller/cooling tower system
- 4) Furnish and install a new natural gas fired, variable volume AHU equipped with packaged DX cooling coil and air cooled condenser section on grade

- 5) Furnish and install ductwork down to the boiler room to connect to existing zone ducts
- 6) Furnish and install reheat piping and associated piping insulation as required
- 7) Furnish and install five (5) variable air volume boxes with reheat coils and insulated piping to serve existing zones
- 8) Furnish and install load-side natural gas piping as required from new service implemented by utility under ESM #3.
- 9) Furnish and install insulation on adjacent ductwork and piping damaged during construction
- 10) Furnish and install new control and power wiring as needed to reconnect
- 11) Provide necessary air and water balancing for newly installed equipment
- 12) Furnish and install fencing around new unit on grade as required
- 13) Any equipment not shown on the IGA REPORT 30% design drawings is excluded. Honeywell shall provide a proposal for any work not included at the request of Customer.
- 14) Start up and commissioning
- 15) Training of facility staff of operation of new equipment

**Notes:**

- a) Packaged variable speed pumps with 2-way VAV reheat coils will be considered as an option during final design.
- b) New piping and ductwork will be fully insulated as required
- c) An equivalent unit manufactured by Trane is also being considered during final design

## **ESM #5: Building Management System Upgrades**

Honeywell shall provide necessary equipment, materials, and labor to implement the following building management systems upgrades.

<b>Building</b>	<b>Existing Building Management System</b>	<b>Integration Method</b>
Enfield Town Hall	None	Town LAN
Family Resource Center	None	Town LAN
Adult Day Care	None	Town LAN
Head Start	Invensys	School LAN
Lamagna Activity Center	None	Town LAN
Central Library	None	Town LAN
Enfield Senior Center	Carrier	Town LAN
Department of Public Works	None	Town LAN
JFK Middle School	Invensys	School LAN
Hazardville Memorial School	Invensys	School LAN
Enfield Street School	Invensys	School LAN
Thomas Alcorn School	Invensys	School LAN
Harriet Beecher Stowe School	Invensys	School LAN
Henry Barnard School	Invensys	School LAN
Eli Whitney School	Invensys	School LAN
Prudence Crandall School	Invensys	School LAN
Nathan Hale School	Invensys	School LAN
Edgar Parkman School	Invensys	School LAN

*Table A-5*

### **Scope of Work**

- 1) Honeywell shall furnish one (1) laptop with proper Building Management System software for remote login capabilities. Honeywell is responsible for coordinating with town and school IT departments to setup remote connection.

- 2) The Town of Enfield shall be responsible to ensure buildings, as listed in Table A-5, are connected on the appropriate LAN for communication with the Building Management System.
- 3) The Town of Enfield shall be responsible to provide and terminate new LAN connections in each building, as listed in Table A-5, which will be used to connect a new Invensys web controller for integration to the energy management system.
- 4) The Town of Enfield shall provide VPN access to Honeywell for remote access into the Building Management System for M&V and service functions.
- 5) Where specified in the scope of work, Honeywell will furnish and install Invensys Building Management System including Direct Digital Controls (DDC) panels, sensors, thermostats, wiring, control valves, and actuators as needed for a complete installation as described herein. Existing control panels, enclosures, and raceways shall be reused where possible.
- 6) Existing valves called to be retrofit are assumed to be compatible with DDC actuators, except where the scope calls to replace the existing valve.
- 7) Upgrade and integration of existing systems specified includes point to point check out and checkout of existing control sequences. Honeywell shall develop a deficiency list during commissioning and checkout and shall provide a proposal to Customer to correct any deficiencies identified.
- 8) Hydronic sensors shall be strap-on type.
- 9) Implement control sequence parameters and set points as specified in the IGA REPORT.
- 10) Wiring shall be concealed to the extent possible during installation. If wire mold is used it shall match existing.
- 11) Where specified in the scope of work, existing pneumatics shall be disconnected and capped to prevent any air leaks. Disconnected and unused pneumatic devices shall be removed and discarded. Unused compressed air lines will be removed where accessible. Repair or replacement of existing pneumatic control systems are not included unless specified.
- 12) Thermostat and sensor covers, cages, protections not included unless specified.
- 13) Existing wall thermostats will be abandoned in place. Painting and patching of walls thermostat replacements, etc. is not included.
- 14) Temporary removal of existing cabinetry, furniture, occupant materials by town
- 15) Testing, adjusting, balancing (TAB) is only included where specified in the scopes of work.
- 16) Providing and installing smoke or fire alarm equipment is excluded. Existing smoke and fire alarm equipment will remain untouched.
- 17) Any equipment not specifically stated as included for retrofit, repair or replacement is excluded. At the request of Customer, Honeywell shall provide a proposal for any work not included.
- 18) Training for the new Building Management System includes on-site training that will be led by a training director and will be provided with appropriate learning material. It is anticipated there will be two separate site visits, one upon completion of project, then the second six months later. Completion of follow up training shall not delay substantial completion.

### **Enfield Town Hall – Scope of Work**

#### **1) Fan Coil Units (FCU):**

Provide Direct Digital Control of the existing thirty-seven (37) FCUs. Provide space temperature and night setback control.

- Analog Input (AI)
- Analog Output (AO)
- Digital Input (DI)
- Digital Output (DO)

<b>Fan Coil Unit</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Fan S/S				37
Fan Status				37
Hot Water Valve Actuator		37		
Chilled Water Valve Actuator		37		
Supply Air Temperature	37			
Space Temperature	37			

Honeywell Shall Implement:

- Install new sensors and Direct Digital Control valves – Two (2) new 2-way DDC valves with actuators will be provided for each FCU. Isolation valves are excluded; two (2) feet on either side of the control valve and the addition of a union (if not currently available) is included.
- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.
- Note, each thermostat will have adjustable setpoints that can be modified by the occupant within the given range

2) Occupancy Sensor for FCU Control:

Provide and install an occupancy sensor in the ground floor conference room and in the first floor Council Chambers to control the FCUs.

FCU	AI	AO	DI	DO
Conference Room Occupancy Sensor			1	
Council Chambers Occupancy Sensor			1	

Honeywell Shall Implement:

- Install new occupancy sensors.
- Occupied/Unoccupied control based on room occupancy.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

3) Electric Baseboard:

Provide Direct Digital Control of the six (6) sections of electric baseboard radiation in the town attorney's office. Take control and provide night setback by controlling the three circuit breakers in the storage closet. The existing line-voltage thermostats will remain in control during the occupied hours.

Electric Baseboard	AI	AO	DI	DO
On/Off Relay				3

Honeywell Shall Implement:

- Install new contactors to enable/disable electric baseboard circuits.
- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

4) Cabinet Unit Heater:

Provide temperature and night setback control of the cabinet unit heater in the entrance way.

Cabinet Unit Heater	AI	AO	DI	DO
Fan S/S				1
Fan Status			1	
Heating Valve		1		
Space Temperature	1			

Honeywell Shall Implement:

- Install new sensors and control existing valve.
- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.
- Note, each thermostat will have adjustable setpoints that can be modified by the occupant within the given range

5) H&V Units in Attic:

Provide Direct Digital Control of the two (2) H&V units in the attic area. Provide SAT reset, HW valve control, DCV control, (1) electric preheat coil, (3) electric reheat coils, unit off during morning warm-up, and occ scheduling.

H&V Unit	AI	AO	DI	DO
Fan S/S				2
Fan Status			2	
OA/RA Damper		2		
Hot Water Heating Coil		2		
Discharge Air Temperature (DAT)	2			
Electric Preheat Coil				1
Electric Reheat Coil				3
CO2 Sensor	2			
Mixed Air Temperature	2			
Supply Air Temperature	4			
Space Temperature	4			

Honeywell Shall Implement:

- Provide DAT control, economizer control, MAT control, DCV, and reheat coil control.
- Reuse existing valves. Provide new damper actuators and commission OA dampers.
- Retain all existing H&V safety interlocks.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

6) Exhaust Fans:

Provide Building Management System start/stop control and status of three (3) exhaust fans in the attic.

Exhaust Fan	AI	AO	DI	DO
Fan S/S				3
Fan Status			3	

Honeywell Shall Implement:

- Install new relays to provide start/stop control.
- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

7) Boiler Control:

Provide Building Management System on the two (2) new boilers and two (2) existing pumps listed below. The new boilers will be furnished with BACnet communication cards to allow full integration of the boiler points into the existing Building Management System. The boilers shall operate as stand-alone equipment. The in-line circulating pumps on each boiler and combustion air dampers will be interlocked to the internal boiler controls and will not require Building Management System.

Points shown in the table below are new points, wiring and sensors by Building Management System contractor.

Boiler Control	AI	AO	DI	DO
New Boiler Enable/Disable ( via BACnet)				2
New Boiler Hot Water Supply Temp ( via BACnet)	2			
New Boiler Hot Water Return Temp ( via BACnet)	2			
New Boiler Alarm ( via BACnet)			2	
New Boiler Hot Water Reset Signal ( via BACnet)		3		
Outside Air Temperature	1			

<b>Boiler Control</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Common Hot Water Supply Temp (hard-wired)	1			
Common Hot Water Return Temp (hard-wired)	1			
Existing Hot Water Pumps Start/Stop (hard-wired)				2
Existing & New Hot Water Pumps Status (hard-wired)			4	

Honeywell Shall Implement:

- Hot water reset schedule based on Outdoor Air Temperature (OAT).
- OAT boiler lockout.
- Pump lead/lag control.
- Condenser boiler staging will be controlled by the internal boiler controls via a master/slave setup provided by the factory.
- Honeywell shall run the BACnet communication wiring to the boilers and terminate the wires. It's Honeywell's responsibility to coordinate all interface work with the factory boiler startup representative to resolve all communication issues.
- Graphics for boilers and pumps showing proper points and associating alarm points with their respective graphic pages.

8) Hot Water Pump Bypass Valves:

Provide Building Management System of the two (2) 2-way bypass valves on each hot water pump loop. Provide necessary differential pressure (DP) sensors to provide control.

<b>Boiler Control</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Valve Actuator		2		
DP Sensor	2			

Honeywell Shall Implement:

- Differential pressure control of HW system.
- Graphics for units showing proper points, setpoints, and associating alarm points with their respective graphic pages.
- Note, the installation of packaged variable speed pumps will be considered during final design.

9) Chiller Control:

Provide Building Management System of the one (1) existing chiller and three (3) chilled water pumps (S/S, status, chiller alarm, CHWS & CHWR temp, etc).

<b>Chiller Control</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Chiller Enable/Disable				1
Chiller Status			1	
Chiller Alarm			1	
Chilled Water Pump S/S				3
Chilled Water Pump Status			3	
CHWS	1			
CHWR	1			

Honeywell Shall Implement:

- Enable/disable control of the chiller based on outside air lockout setpoint.
- Chilled water available signal to all associated cooling equipment.
- Graphics for units showing proper points, setpoints, and associating alarm points with their respective graphic pages.

## **Family Resource Center – Scope of Work**

### **1) Wireless Web-Connected Thermostat RTUs:**

Replace the two existing RTU stats with wireless web-connected thermostats that display, record, and archive space temp and equipment run status. Program the thermostats with a 7-day schedule with occupied and unoccupied heating and cooling setpoints per the IGA REPORT. The thermostats and trend data shall be available via a password protected website.

RTU	AI	AO	DI	DO
Space Temperature	2			
Run Status			2	

#### **Honeywell Shall Implement:**

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

## **Adult Day Care – Scope of Work**

### **1) Wireless Web-Connected Thermostat AHUs:**

Replace the two existing AHU stats with wireless web-connected thermostats that display, record, and archive space temp and equipment run status. Program the thermostats with a 7-day schedule with occupied and unoccupied heating and cooling setpoints per the IGA REPORT. The thermostats and trend data shall be available via a password protected website.

AHU	AI	AO	DI	DO
Space Temperature	2			
Run Status			2	
Electric Heat – 2 <sup>nd</sup> Stage				2

#### **Honeywell Shall Implement:**

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

### **2) Boiler Control:**

Provide Direct Digital Control on the new boiler, circ pump, and the DHW heater pump. Provide start/stop, status, alarming, and HWS & HWR temp. Implement HW reset control and OAT lockout setpoint.

Boiler Control	AI	AO	DI	DO
Boiler Enable/Disable				1
Boiler Status			1	
Boiler Alarm			1	
Hot Water Pump S/S				1
Hot Water Pump Status			1	
Outside Air Temperature	1			
HWS	1			
HWR	1			
Domestic Hot Water Recirc Pump S/S				1
Domestic Hot Water Recirc Pump Status			1	
Domestic Hot Water Temperature	1			

#### **Honeywell Shall Implement:**

- Hot water reset schedule based on OAT.
- OAT boiler lockout.
- Pump control.

- Graphics for boilers and pumps showing proper points and associating alarm points with their respective graphic pages.

### **Head Start – Scope of Work**

#### 1) Upgrade old Network 8000 Building Management System:

Upgrade existing Network 8000 Building Management System to one (1) new Jace AX controller to allow integration into new Building Management System.

#### Honeywell Shall Implement:

- Install new Jace AX controller to allow existing Invensys controls to be integrated into the new Building Management System.
- New graphics for existing units showing proper points and associating alarm points with their respective graphic pages.

#### 2) AHU CO2 Sensors:

Add one (1) CO2 sensors to each AHU and implement demand controlled ventilation (DCV). Test, adjust and balance (TAB) the Outside Air and Return Air dampers to provide minimum ventilation rates during the occupied mode and check for tight damper close-off during the unoccupied mode.

AHU-1, 2, 3	AI	AO	DI	DO
CO2 Sensor	3			

#### Honeywell Shall Implement:

- Install CO<sub>2</sub> sensors for DCV on the 3 existing AHUs. – Note there is one (1) conference room associated with AHU-1, this space will have a CO<sub>2</sub> sensor installed. Because this conference room is directly below AHU-1 there will be minimal wiring required.
- Provide programming to implement DCV. Verify that the OA damper is providing minimum ventilation rates during the occupied mode and provides tight damper close-off during the unoccupied mode.
- Exercise and make necessary OA/RA damper linkage adjustments.
- Graphics for AC units showing proper points and associating alarm points with their respective graphic pages.

#### 3) Space Push Button Overrides for each AHU:

Provide one (1) push button overrides for each AHU to provide tighter scheduling of equipment.

AHU-1, 2, 3	AI	AO	DI	DO
Override			3	

#### Honeywell Shall Implement:

- Provide programming to implement push button override.
- Graphics for all push buttons and show override timer on their respective graphic pages.

#### 4) Re-Commissioning:

Re-commission the existing Invensys controls currently installed and confirm economizer control sequence. Perform point to point checkout of existing hard-wired points and testing of existing sequences of operation. Develop a deficiency list of components found to be defective.

### **Lamagna Activity Center – Scope of Work**

#### 1) Boiler Control:

Provide Direct Digital Control on the four (4) boilers, two (2) circ pumps, and the 3-way mixing valve. Provide start/stop, status, alarming, and HWS & HWR temp. Implement HW reset control and OAT lockout setpoint. Provide graphic screens for each piece of equipment on the Building Management System. Note, BMS will handle boiler sequencing.



<b>Boiler Control</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Boiler Enable/Disable				4
Boiler Status			4	
Boiler Alarm			4	
Hot Water Pump S/S				2
Hot Water Pump Status			2	
Outside Air Temperature	1			
HWS	4			
3-way Mixing Valve		1		
Common HWS	1			
Common HWR	1			

Honeywell Shall Implement:

- Hot water reset schedule based on OAT reusing existing 3-way valve.
- OAT boiler lockout.
- Pump control.
- Graphics for boilers and pumps showing proper points and associating alarm points with their respective graphic pages.

2) Domestic Hot Water Circulating Pumps:

Provide Direct Digital Control start/stop control of the two DHW circ. pumps.

<b>Boiler Control</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Domestic Hot Water Circulating Pump S/S				2
Domestic Hot Water Circulating Pump Status			2	

Honeywell Shall Implement:

- Occupied/Unoccupied schedules as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

3) Heating & Ventilating Units Serving Gym:

Provide Direct Digital Control of the two H&V units that serve the gym. (S/S, status, MAT, SAT, OA/RA damper, htg valve, space temp, CO2 sensor, occupancy sensor, EF S/S and status). Provide and install two (2) new Direct Digital Control 3-way hot water (HW) valves, actuators and new damper actuators. TAB OA/RA dampers, implement DAT control, economizer control, occupancy control and DCV.

<b>Heating &amp; Ventilating Unit (Typical of 2)</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Fan S/S				2
Fan Status			2	
Mixed Air Temperature	2			
Supply Air Temperature	2			
OA/RA Damper Actuator		2		
Hot Water Valve Actuator		2		
Space Temperature Sensor	2			
CO2 Sensor	2			
Occupancy Sensor	2			
Exhaust Fan S/S				2
Exhaust Fan Status			2	

Honeywell Shall Implement:

- Provide DAT control, economizer control, and DCV.
- Provide enable/disable control of units based on occupancy sensor.

- Provide new damper actuators and commission OA/RA dampers. – Note, work includes testing and adjusting linkages as necessary to provide tight close-off of dampers modulated in both directions. Customer will be notified if dampers need replacement.
- Provide new Direct Digital Control 3-way valves for each H&V unit. – Note, new DDC valves will be provided. Piping details will be addressed during detailed design. Work will be scheduled during the summer to avoid HW system shutdown. There is no glycol in the system.
- Lead/Lag units on based on heating/economizer demand of the space.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

4) Air Handling Unit Serving Locker Room:

Provide Direct Digital Control of the one (1) AHU that serves the locker room. (S/S, status, MAT, SAT, OA damper, htg valves, space temp, CO2 sensor, freeze pump S/S and status, EF S/S and status). Provide new damper actuators and TAB for OA/RA Dampers to implement DCV.

<b>Air Handling Unit</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Fan S/S				1
Fan Status			1	
Mixed Air Temperature	1			
Supply Air Temperature	1			
OA Damper Actuator		1		
Hot Water Valve Actuators		2		
Space Temperature Sensor	1			
CO2 Sensor	1			
Freeze Pump S/S				1
Freeze Pump Status			1	
Exhaust Fan S/S				1
Exhaust Fan Status			1	

Honeywell Shall Implement:

- Provide DAT control, economizer control, and DCV.
- Provide new damper actuators and commission OA/RA dampers. – Note, work includes testing and adjusting linkages as necessary to provide tight close-off of dampers modulated in both directions. Customer will be notified if dampers need replacement.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

5) Direct Digital Control of four (4) Rooftop Units:

Provide full Direct Digital Control of the four RTUs including economizer control and demand controlled ventilation with DAT and space temperature control. Provide new damper actuators, TAB OA/RA dampers.

<b>Rooftop Unit</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Fan S/S				4
Fan Status			4	
Mixed Air Temperature	4			
Supply Air Temperature	4			
Return Air Temperature	4			
OA/RA Damper Actuator		4		
Hot Water Valve Actuator		4		
DX Cooling Relay	4			
Space Temperature	4			

Honeywell Shall Implement:

- Provide DAT control, space temp control, and economizer control.
- Provide new damper actuators and commission OA/RA dampers. – Note, work includes testing and adjusting linkages as necessary to provide tight close-off of dampers modulated in both directions. Customer will be notified if dampers need replacement.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

6) Wireless Web-Connected Thermostats:

Replace the three (3) existing FCU thermostats with wireless web-connected thermostats that display, record, and archive space temp and equipment run status. Program the thermostats with a 7-day schedule with occupied and unoccupied heating and cooling setpoints per the IGA REPORT.

Fan Coil Unit	AI	AO	DI	DO
Space Temperature	3			
FCU On/Off				3
FCU Run Status			3	

Honeywell Shall Implement:

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

7) Return Air Fans serving RTU-3 & 4:

Provide Direct Digital Control of the two (2) RA fans that serve RTU-3 & RTU-4. (S/S, status, new electronic actuators for two existing by-pass dampers)

Return Fan	AI	AO	DI	DO
Fan S/S				2
Fan Status			2	
Bypass Damper Actuators				2

Honeywell Shall Implement:

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

8) Exhaust Fans:

Provide Direct Digital Control start/stop control and status of three exhaust fans.

Exhaust Fan	AI	AO	DI	DO
Fan S/S				3
Fan Status			3	

Honeywell Shall Implement:

- Install new relays to provide start/stop control.
- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

9) Reheat Coil Hot Water Valves:

Provide and install seven (7) new Direct Digital Control 3-way hot water valves on the 1<sup>st</sup> and 2<sup>nd</sup> floor reheats and seven space (7) sensors.

Radiation (Typical of 7)	AI	AO	DI	DO
Valve Actuator		7		
Space Temperature Sensor	7			

Honeywell Shall Implement:

- Install new Direct Digital Control 3-way hot water valves and Direct Digital Control space sensors to provide room temperature control.
- Occupied/Unoccupied setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

10) Cabinet Unit Heaters:

Provide Direct Digital Control of the three (3) cabinet unit heaters located in the entryways.

Cabinet Unit Heater	AI	AO	DI	DO
Fan S/S				3
Fan Status			3	
Heating Valve				3
Space Temperature	3			

Honeywell Shall Implement:

- Install new sensors and control existing valve.
- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

**Central Library – Scope of Work**

1) Boiler Control:

Provide Direct Digital Control of the one new hot water boiler and three hot water pumps (S/S, status, boiler alarm, HWS & HWR temp, etc).

Boiler Control	AI	AO	DI	DO
Boiler Enable/Disable				1
Boiler Status			1	
Boiler Alarm			1	
Hot Water Pump S/S				3
Hot Water Pump Status			3	
Outside Air Temperature	1			
HWS	1			
HWR	1			

Honeywell Shall Implement:

- Hot water reset schedule based on OAT.
- OAT boiler lockout.
- Pump control.
- Graphics for boilers and pumps showing proper points and associating alarm points with their respective graphic pages.

2) Domestic Hot Water Circulating Pumps:

Provide Direct Digital Control start/stop control of one (1) DHW circ. pump.

Boiler Control	AI	AO	DI	DO
Domestic Hot Water Circulating Pump S/S				1
Domestic Hot Water Circulating Pump Status			1	

Honeywell Shall Implement:

- Occupied/Unoccupied schedules as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

3) Provide Direct Digital Control of new Air Handling Unit:

Provide Direct Digital Control of the new AHU. (S/S, status, MAT, RAT, SAT, OA/RA damper, htg valve, three (3) DX cooling stages, five (5) VAV dampers, five (5) space temp sensors, five (5) VAV reheat valves, two (2) CO2 sensors, occupancy sensor in the multi-purpose room, EF S/S and status).

<b>Air Handling Unit</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Fan S/S				1
Fan Status			1	
Mixed Air Temperature	1			
Supply Air Temperature	1			
Return Air Temperature	1			
OA/RA Damper Actuator		1		
Hot Water Valve Actuators		1		
DX Cooling Relay	3			
CO2 Sensor	2			
Occupancy Sensor	1			
Exhaust Fan S/S				1
Exhaust Fan Status			1	

<b>VAV Box</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Damper		5		
Airflow	5			
Reheat Valve		5		
Space Temperature	5			
Supply Air Temperature	5			

Honeywell Shall Implement:

- Provide DAT control, economizer control, VAV box zone temp control, occupancy sensor control in multi-purpose room and DCV. – Note, one (1) CO<sub>2</sub> sensor will be installed in the multi-purpose room and one (1) CO<sub>2</sub> sensor will be installed in the main space (the building is mostly open floor plan with the exception of the multi-purpose room). TAB the unit and VAV boxes.
- Provide new damper actuators on zone dampers and OA/RA dampers. Commission OA/RA dampers and zone dampers. – Note, work includes testing and adjusting linkages as necessary to provide tight close-off of dampers modulated in both directions. Customer will be notified if dampers need replacement.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

4) Cabinet Unit Heaters:

Provide Direct Digital Control of the three cabinet unit heaters located in the entryways.

<b>Cabinet Unit Heater</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Fan S/S				3
Fan Status			3	
Heating Valve				3
Space Temperature	3			

Honeywell Shall Implement:

- Install new sensors and control existing valve.
- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

## **Enfield Senior Center – Scope of Work**

### **1) Replace RTU Carrier DDC System:**

The Carrier DDC system will be replaced in-kind with a new control system and it will be integrated it into the existing (web-based) Invensys BMS. Reuse existing conduit, wiring, relays, actuators, valves, and sensors where applicable. Each RTU will have fan S/S, fan status, SAT, MAT, RAT, OA/RA damper, htg stage, cooling stage, space temp, CO2 sensor.

<b>Rooftop Unit</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Fan S/S				7
Fan Status			7	
Mixed Air Temperature	7			
Supply Air Temperature	7			
Return Air Temperature	7			
OA/RA Damper Actuator		7		
Hot Water Valve Actuator		7		
DX Cooling Relay	14			
RTU-5 Bypass Dampers		2		
RTU-5 Static Pressure	1			
CO2 Sensor	7			
Space Temperature	7			

<b>VAV Box</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Damper		8		
Airflow	8			
Space Temperature	8			
Supply Air Temperature	8			

### **Honeywell Shall Implement:**

- Provide DAT control, economizer control, zone temp control, and DCV. TAB OA/RA dampers.
- Provide RTU-5 static pressure control and VAV zone damper control
- Commission OA/RA dampers and zone dampers.
- Graphics for all units showing proper points and associated alarm points with their respective graphic pages.
- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

### **2) Boilers and Radiant Floor Hot Water Circulating Pump:**

Provide Direct Digital Control start/stop control of the radiant floor heating circ. pump.

<b>Boiler Control</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Radiant Hot Water Circulating Pump S/S				1
Radiant Hot Water Circulating Pump Status			1	
Boiler Enable/Disable				2
Boiler Status			2	
HWS Temp	1			

### **Honeywell Shall Implement:**

- Occupied/Unoccupied schedules as outlined in the IGA REPORT.
- Control radiant floor heat pump based on space temp from RTU zone.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

## **Department of Public Works – Scope of Work**

### 1) Wireless Web-Connected Thermostats:

Replace the existing thermostats (indicated below) with wireless web-connected thermostats that display, record, and archive space temp and equipment run status. Program the thermostats with a 7-day schedule with occupied and unoccupied heating and cooling setpoints per the IGA REPORT. The thermostat data shall be displayed on a graphic page that is available from the existing Invensys front-end. Existing boiler thermostat control configuration to remain the same.

Thermostats	AI	AO	DI	DO
Garage Space Temperature	3			
Garage Unit On/Off				3
Garage Unit Run Status			3	
Service Bay Space Temperature	3			
Service Bay Unit On/Off				3
Service Bay Unit Run Status			3	
Office Building Finned Tube Radiation				8
Office RTU Space Temperature	1			
Office RTU Unit On/Off				1
Office RTU Run Status			1	
Office Split System Space Temperature	2			
Office Split System On/Off				2
Office Split System Run Status			2	

#### Honeywell Shall Implement:

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

### 2) Carrier Rooftop Unit Control:

Provide enable/disable control and status of the Carrier RTU located in the new office building.

Rooftop Unit	AI	AO	DI	DO
RTU Enable/Disable				1
RTU Status			1	
Space Temperature	1			

#### Honeywell Shall Implement:

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

## **JFK Middle School – Scope of Work**

### 1) Upgrade Network 8000 BMS:

Upgrade old Network 8000 BMS to the new JACE AX controller to allow integration into new BMS.

#### Honeywell shall implement:

- Install new Jace AX controller to allow existing Invensys controls to be integrated into the new BMS.
- New graphics for existing units showing proper points and associating alarm points with their respective graphic pages.

### 2) Re-Commissioning:

Re-commission the existing Invensys controls that are currently installed on the existing boiler and hot water pumps and the 2002 Library/admin addition and the two RTUs serving the tech lab area. This includes all existing DDC serving RTUs, unit vents, finned tube radiation, cabinet unit heaters, ceiling hung unit heaters, exhaust fans, and fan coil units.

Honeywell shall implement:

- Point to point checkout of existing hard-wired points.
- Functional testing of existing sequences of operation.
- Develop a deficiency list of components found to be defective.

3) Boiler Room 3-way Mixing Valve:

Retrofit the existing 3-way mixing valve, located in the boiler room, with a new DDC actuator and provide an outside air reset schedule on the leaving hot water supply temp.

Mixing Valve	AI	AO	DI	DO
Valve Actuator		1		

Honeywell shall implement:

- Provide and install new DDC actuator and provide hot water reset based on the outside air temp.
- Graphics for units showing proper points, setpoints, and associating alarm points with their respective graphic pages.

4) Unit Ventilator Wireless Pneumatic DDC Thermostats:

Provide and install (79) wireless pneumatic DDC thermostats made by Cypress Envirosystems, or approved equal.

Thermostats	AI	AO	DI	DO
Space Temperature	79			
Pneumatic Pressure	79			
Battery Life	79			

Honeywell shall implement:

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Commission OA/RA dampers and heating valve. – Note, work includes testing and adjusting linkages as necessary to provide tight close-off of dampers modulated in both directions. Customer will be notified if dampers need replacement. Provide space temperature control.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

5) Heating & Ventilating Units:

Provide Fan S/S, status, space temp, and SAT on the ten (10) H&V units. Control of HW valves not included.

Heating & Ventilating Unit (Typical of 10)	AI	AO	DI	DO
Fan S/S				10
Fan Status			10	
Discharge Air Sensor	10			
Space Temperature Sensor	10			

Honeywell shall implement:

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Provide night setback control.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

6) Finned Tube Radiation Wireless Pneumatic DDC Thermostats:

Provide and install eighteen (18) wireless pneumatic DDC thermostats made by Cypress Envirosystems, or approved equal. Reuse existing control valves and actuators

Thermostats	AI	AO	DI	DO
Space Temperature	18			
Pneumatic Pressure	18			
Battery Life	18			



Honeywell shall implement:

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Provide space temperature control.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

7) Thermostatic Radiator Valves:

Provide ten (10) thermostatic radiator valves (TRV) on small misc hot water radiators located in closets, bathrooms, etc.

Honeywell shall implement:

- Install TRVs with locking mechanisms on misc. radiators and set to 58F.

8) Thermostatic Radiator Valves:

Provide sixteen (16) thermostatic radiator valves (TRV) on cabinet unit heaters located throughout the entryways and corridors.

Honeywell shall implement:

- Install TRVs with locking mechanisms on misc. radiators and set to 58F.

9) Exhaust Fans:

Provide DDC start/stop control and status of ten (10) exhaust fans.

<b>Exhaust Fan (Typical of 10)</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Fan S/S				10
Fan Status			10	

Honeywell shall implement:

- Install new relays to provide start/stop control.
- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

**Hazardville Memorial School – Scope of Work**

1) Upgrade Network 8000 Building Management System:

Upgrade old Network 8000 Building Management System to the new JACE AX controller to allow integration into new Building Management System.

Honeywell Shall Implement:

- Install new JACE AX controller to allow existing Invensys controls to be integrated into the new Building Management System.
- New graphics for existing units showing proper points and associating alarm points with their respective graphic pages.

2) Re-commissioning:

Re-commission the existing Invensys controls currently installed, including boilers, library RTU, unit vents, finned tube radiation, cabinet unit heaters, and heat exchangers.

Honeywell Shall Implement:

- Point to point checkout of existing hard-wired points.
- Functional testing of existing sequences of operation.
- Develop a deficiency list of components found to be defective.

3) Wireless Pneumatic Direct Digital Control Thermostats:

Provide twenty-seven (27) wireless pneumatic Direct Digital Control thermostats made by Cypress Envirosystems, or approved equal, to control the existing pneumatic 2-way steam valves. Existing control valves are to be reused. Provide and install new air dryer, coalescing filters, and pressure reducing station.

<b>Thermostats</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Space Temperature	27			
Pneumatic Pressure	27			
Battery Life	27			

Honeywell Shall Implement:

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Provide space temperature control.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

4) Thermostatic Radiator Valves:

Provide nine (9) thermostatic radiator valves (TRV) on small misc steam radiators located in closets, bathrooms, entryways, etc.

Honeywell Shall Implement:

- Install TRVs with locking mechanisms on misc. steam radiators and set to 58F.

5) Cafeteria Radiation Valve:

Provide and install one (1) new heating valve for the cafeteria radiation. Reuse the existing Direct Digital Control space sensor to control the new valve.

<b>Radiation</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Valve Actuator				1

Honeywell Shall Implement:

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Provide night setback and space temp control.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

6) Unit Ventilators:

Provide Direct Digital Control of the three (3) existing unit ventilators in the gym. Direct Digital Control points include fan S/S and status, SAT, MAT, space temp (with setpoint adj.), 2-way heating valve, OA/RA damper actuator, occupancy sensor, and freezestat.

<b>Unit Ventilator (Typical of 3)</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Fan S/S				3
Fan Status			3	
Discharge Air Sensor	3			
Mixed Air Temperature	3			
Space Temperature	3			
Space Setpoint Adjust	3			
Heating Valve		3		
Occupancy			1	
Outside Air/Return Air Damper Signal		3		
Low Limit Thermostat			3	

Honeywell Shall Implement:

- Provide DAT control, economizer control, and zone temp control.
- Install three (3) new 2-way heating valves and actuators.
- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Commission OA/RA dampers. – Note, work includes testing and adjusting linkages as necessary to provide tight close-off of dampers modulated in both directions. Customer will be notified if dampers need replacement.

- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

7) Exhaust Fans:

Provide Direct Digital Control start/stop relay control and status of three (3) exhaust fans.

<b>Exhaust Fan (Typical of 3)</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Fan S/S				3
Fan Status			3	

Honeywell Shall Implement:

- Install new relays to provide start/stop control.
- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

8) Add CO<sub>2</sub> to Library RTU:

Add a CO<sub>2</sub> sensor to the existing RTU that serves the library and provide demand controlled ventilation. TAB OA/RA Dampers.

<b>RTU</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Return Air CO <sub>2</sub> Sensor	1			

Honeywell Shall Implement:

- Provide programming to implement DCV. Verify that the OA damper is providing minimum ventilation rates during the occupied mode and provides tight damper close-off during the unoccupied mode.
- Exercise and make necessary OA/RA damper linkage adjustments.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

9) Boiler Run Status:

Add Direct Digital Control boiler run status to both boilers and connect to the existing Invensys Building Management System.

<b>Boiler Run Status</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Status			2	

Honeywell Shall Implement:

- Provide boiler run status.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

**Enfield Street School – Scope of Work**

1) Re-commissioning:

Re-commission the existing Invensys controls currently installed; including boilers, library and gym RTU, unit vents, finned tube radiation, cabinet unit heaters, and heat exchangers.

Honeywell Shall Implement:

- Point to point checkout of existing hard-wired points.
- Functional testing of existing sequences of operation.
- Develop a deficiency list of components found to be defective.

2) Electric (low voltage) Steam Valves:

Provide Direct Digital Control of twenty-five (25) existing 2-way electric (low voltage) steam valves. Provide space temp sensors for each zone to match existing.

<b>Radiation</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Valve Actuator				25
Space Temperature	25			

Honeywell Shall Implement:

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Provide night setback and space temp control.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

3) Thermostatic Radiator Valves:

Provide and install seven (7) thermostatic radiator valves (TRV) on small misc steam radiators located in closets, bathrooms, entryways, etc.

Honeywell Shall Implement:

- Install TRVs with locking mechanisms on misc. steam radiators and set to 58F.

4) Existing Unit Vents:

Connect the six (6) existing unit vents in the 1963 section to the new Building Management System and provide graphics. Reuse existing valves and actuators.

Honeywell Shall Implement:

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Provide night setback and space temp control.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

5) Existing Pneumatic Hot Water Valves:

Provide Direct Digital Control of the 3 existing 2-way pneumatic hot water valves in the 1963 section. Retrofit the existing valves with new Direct Digital Control actuators and provide three (3) Direct Digital Control space sensors (adj.).

<b>Radiation</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Valve Actuator				3
Space Temperature	3			
Space Setpoint Adjust	3			

Honeywell Shall Implement:

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Provide night setback and space temp control.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

6) H&V Unit serving Cafeteria:

Provide Direct Digital Control of the H&V unit in the attic that serves the cafeteria. Direct Digital Control points will include fan S/S and status, SAT, MAT, space temp (with setpoint adj.), (2) 2-way heating valves (use existing actuators), OA/RA damper actuator (use existing actuators), CO2 sensor, occupancy sensor, and freezestat. Provide DCV, DAT, economizer and zone temperature control. TAB OA/RA dampers. Existing control valves and actuators will be reused.

<b>H&amp;V Unit</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Fan S/S				1
Fan Status			1	
Discharge Air Sensor	1			
Mixed Air Temperature	1			
Space Temperature	1			
Space Setpoint Adjust	1			

<b>H&amp;V Unit</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Heating Valve		2		
Outside Air/Return Air Damper		1		
CO2 Sensor	1			
Occupancy Sensor			1	
Low Limit Thermostat			3	

Honeywell Shall Implement:

- Provide DAT control, economizer control, zone temp control, and DCV.
- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Commission OA/RA dampers. – Note, work includes testing and adjusting linkages as necessary to provide tight close-off of dampers modulated in both directions. Customer will be notified if dampers need replacement.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

7) Cabinet Unit Heaters:

Provide Direct Digital Control of six (6) cabinet unit heaters located throughout the entryways and corridors. Provide new thermostat and actuator, existing control valves will be reused

<b>Cabinet Unit Heater</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Fan S/S				6
Fan Status			6	
Heating Valve				6
Space Temperature	6			

Honeywell Shall Implement:

- Install new sensors and control existing valve.
- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

8) Exhaust Fans:

Provide Direct Digital Control start/stop control and status of three (3) exhaust fans.

<b>Exhaust Fan (Typical of 3)</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Fan S/S				3
Fan Status			3	

Honeywell Shall Implement:

- Install new relays to provide start/stop control.
- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

9) Add CO2 to RTU serving Library and Gymnasium:

Add a CO2 sensor to the existing RTUs that serve the library and gym and provide demand controlled ventilation. TAB OA/RA dampers.

<b>RTU (Typical of 2)</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
CO2 Sensor	2			

Honeywell Shall Implement:

- Provide programming to implement DCV. Verify that the OA damper is providing minimum ventilation rates during the occupied mode and provides tight damper close-off during the unoccupied mode.
- Exercise and make necessary OA/RA damper linkage adjustments.

- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

10) Boiler Run Status:

Add Direct Digital Control boiler run status to both boilers and connect to the existing Invensys Building Management System.

Boiler	AI	AO	DI	DO
Status			2	

Honeywell Shall Implement:

- Provide boiler run status.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

**Thomas Alcorn School – Scope of Work**

1) Re-commissioning:

Re-commission the existing Invensys controls currently installed; including boilers, heat exchanger and pumps.

Honeywell Shall Implement:

- Point to point checkout of existing hard-wired points.
- Functional testing of existing sequences of operation.
- Develop a deficiency list of components found to be defective.

2) Existing Pneumatic Hot Water Valves:

Provide Direct Digital Control of the three existing 2-way pneumatic hot water valves. Provide space temp sensors for each zone to match existing. Reuse existing valves.

Radiation	AI	AO	DI	DO
Valve Actuator		3		
Space Temperature	3			

Honeywell Shall Implement:

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Provide night setback and space temp control.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

3) Existing Pneumatic Steam Valves:

Provide Direct Digital Control of the thirty-six (36) existing 2-way pneumatic steam valves. Retrofit the existing valves with new Direct Digital Control actuators and provide 36 Direct Digital Control space temp sensors for each zone to match existing.

Radiation	AI	AO	DI	DO
Valve Actuator				36
Space Temperature	36			

Honeywell Shall Implement:

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Provide night setback and space temp control.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

4) Thermostatic Radiator Valves:

Provide and install eight (8) thermostatic radiator valves (TRV) on small misc steam radiators located in closets, bathrooms, entryways, etc.

Honeywell Shall Implement:

- Install TRVs with locking mechanisms on misc. steam radiators and set to 58F.

5) Cafeteria AHU-1:

Provide Direct Digital Control of the cafeteria AHU-1 and connect to the new Building Management System. Direct Digital Control points will include supply fan S/S and status, return fan S/S and status, SAT, MAT, RAT, space temp (with setpoint adj.), 3-way heating valve (retrofit existing valves with Direct Digital Control actuators), freeze protection pump S/S and status, DCV, OA/RA/EA damper actuators, CO2 sensor, occupancy sensor, and freezestat. TAB OA/RA dampers.

AHU-1	AI	AO	DI	DO
Fan S/S				1
Fan Status			1	
Discharge Air Sensor	1			
Return Fan S/S				1
Return Fan Status			1	
Mixed Air Temperature	1			
Supply Air Temperature	1			
Return Air Temperature	1			
Space Temperature	1			
Space Setpoint Adjust	1			
3-way Heating Valve		1		
Freeze Pump S/S				1
Freeze Pump Status			1	
Outside/Return Air Damper		1		
CO2 Sensor	1			
Occupancy Sensor			1	
Low Limit Thermostat			1	

Honeywell Shall Implement:

- Provide DAT control, economizer control, zone temp control, and DCV.
- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Commission OA/RA dampers. – Note, work includes testing and adjusting linkages as necessary to provide tight close-off of dampers modulated in both directions. Customer will be notified if dampers need replacement.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

6) Gymnasium AHU-2:

Provide Direct Digital Control of the gym AHU-2 and connect to the new Building Management System. Retrofit existing three-way heating valve with Direct Digital Control actuator. Provide DAT control, economizer control, zone temp control, and DCV. TAB OA/RA dampers. Direct Digital Control points will include supply fan S/S and status, SAT (after each reheat coil), RAT, space temp (with setpoint adj.), (2) 3-way heating valves (retrofit existing valves with Direct Digital Control actuators), OA/RA/EA damper actuators, (2) freeze protection pumps S/S and status, CO2 sensor, occupancy sensor, and freezestat.

AHU-2	AI	AO	DI	DO
Fan S/S				1
Fan Status			1	
Discharge Air Sensor	2			
Return Air Temperature	1			
Space Temperature	1			
Space Setpoint Adjust	1			
3-way Heating Valve		2		
Freeze Pump S/S				1

<b>AHU-2</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Freeze Pump Status			1	
Outside/Return Air Damper		1		
CO2 Sensor	1			
Occupancy Sensor			1	
Low Limit Thermostat			1	

Honeywell Shall Implement:

- Provide DAT control, economizer control, zone temp control, and DCV.
- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Commission OA/RA dampers. – Note, work includes testing and adjusting linkages as necessary to provide tight close-off of dampers modulated in both directions. Customer will be notified if dampers need replacement.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

7) Wireless Web-Connected Thermostat AHU-3:

Replace the existing AHU-3 thermostat with a wireless web-connected thermostat that display, record, and archive space temp and equipment run status. Program the thermostats with a 7-day schedule with occupied and unoccupied heating and cooling setpoints per the IGA REPORT. The thermostat data shall be displayed on a graphic page that is available through the new Invensys Building Management System.

<b>AHU-3</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Space Temperature	1			
Run Status			1	

Honeywell Shall Implement:

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

8) Classroom Unit Ventilators:

Retrofit the eleven (11) existing classroom unit vents in the new section of the building with new Direct Digital Control. Direct Digital Control points will include supply fan S/S and status, SAT, MAT, space temp (with setpoint adj.), 2-way heating valves (retrofit existing valves with Direct Digital Control actuators), OA/RA damper actuator, and freezestat. Five of the unit vents have associated 2-way heating valves (retrofit existing valves with Direct Digital Control actuators). The 10 ceiling mounted Carrier cassette type A/C units that provide cooling to the spaces will be controlled by the new unit vent Direct Digital Control space sensor. Provide Direct Digital Control to control Carrier cassette type A/C units.

<b>Unit Ventilator (Typical of 11)</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Fan S/S				11
Fan Status			11	
Discharge Air Sensor	11			
Mixed Air Temperature	11			
Space Temperature	11			
Space Setpoint Adjust	11			
Heating Valve		11		
Outside Air/Return Air Damper		11		
Low Limit Thermostat			11	
Cooling Relay				11

Honeywell Shall Implement:

- Provide DAT control, economizer control, and zone temp control.
- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.



- Commission OA/RA dampers. – Note, work includes testing and adjusting linkages as necessary to provide tight close-off of dampers modulated in both directions. Customer will be notified if dampers need replacement.
- Lockout Carrier cassette units during unit vent economizer mode, heating mode, and unoccupied periods. – Note, five (5) of the rooms have additional 2-way valves on the finned tube radiation; these will be controlled on the same output as the valve in the unit ventilator. The A/C cassette units will be locked out when the heat is active but will operate under their own thermostat otherwise.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

9) Chiller Enable/Disable:

Provide Direct Digital Control enable/disable control of the existing chiller. Provide Direct Digital Control CHW supply & return temp and connect to the new Building Management System.

Chiller	AI	AO	DI	DO
Enable/Disable				1
CHWS Temperature	1			
CHWR Temperature	1			

Honeywell Shall Implement:

- Enable/disable control of the chiller based on outside air lockout setpoint.
- Chilled water available signal to all associated cooling equipment.
- Graphics for units showing proper points, setpoints, and associating alarm points with their respective graphic pages

10) Replace JCI Controls on RTU-1 and RTU-2:

Replace the JCI controls on RTU-1 and RTU-2. Provide Direct Digital Control space sensors and zone damper control to match existing. Direct Digital Control points will include supply fan S/S and status, SAT, MAT, RAT, 2 stages of gas heat, 3 stages of DX cooling (6) space temps (with setpoint adj.), (6) zone dampers, by-pass damper, OA/RA damper actuators, CO2 sensors. Implement DCV, DAT, economizer and zone temperature control. TAB OA/RA. Reuse existing wiring and sensors as needed.

Rooftop Unit	AI	AO	DI	DO
Fan S/S				2
Fan Status			2	
Mixed Air Temperature	2			
Supply Air Temperature	2			
Return Air Temperature	2			
OA/RA Damper Actuator		2		
Zone Dampers		12		
By-pass Damper		1		
Gas Heat		4		
DX Cooling Relay	6			
CO2 Sensor	2			
Space Temperature	2			

Honeywell Shall Implement:

- Provide DAT control, economizer control, zone temp control, and DCV.
- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Commission OA/RA dampers. – Note, work includes testing and adjusting linkages as necessary to provide tight close-off of dampers modulated in both directions. Customer will be notified if dampers need replacement.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

11) Boiler Run Status:

Add Direct Digital Control boiler run status to both boilers and connect to the existing Invensys Building Management System.

Boiler	AI	AO	DI	DO
Status			2	

Honeywell Shall Implement

- Provide boiler run status.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

**Harriet Beecher Stowe School – Scope of Work**

1) Re-commissioning:

Re-commission the existing Invensys controls currently installed; including boilers, heat exchanger and pumps.

Honeywell Shall Implement

- Point to point checkout of existing hard-wired points.
- Functional testing of existing sequences of operation.
- Develop a deficiency list of components found to be defective.

2) Existing 3-way Valves in Boiler Room:

Provide new Direct Digital Control actuators for the two (2) existing 3-way valves in the boiler room and implement an OAT reset schedule for the leaving hot water supply temp for each zone.

Radiation	AI	AO	DI	DO
Valve Actuator		2		
HWS Temperature	2			

Honeywell Shall Implement

- Provide and install new Direct Digital Control actuator and provide hot water reset based on the outside air temp.
- Graphics for units showing proper points, setpoints, and associating alarm points with their respective graphic pages.

3) Hot Water Radiation Zones:

Provide and install six (6) new Direct Digital Control 2-way hot water valves on the existing finned tube radiation in the office corridor rooms. Provide space temp sensors (adj.) for each new Direct Digital Control valve.

Radiation	AI	AO	DI	DO
Valve Actuator				6
Space Temperature	6			
Space Temperature Setpoint Adjust	6			

Honeywell Shall Implement

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Provide night setback and space temp control.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

4) Thermostatic Radiator Valves:

Provide and install four (4) stand-alone thermostatic radiator valves (TRVs) on the existing finned tube radiation in the bathrooms.

Honeywell Shall Implement

- Install TRVs with locking mechanisms on finned tube radiation and set to 58F.

5) Add CO2 and Occupancy Sensor to RTU/MAU:

Add a total of three (3) CO2 sensors and two (2) space occupancy sensors (gym and café only) to the existing RTU/MAU that serves the library, cafeteria, and gym and provide demand controlled ventilation. TAB OA/RA Dampers.

RTU/MAU	AI	AO	DI	DO
Occupancy Sensor			2	
CO2 Sensor	3			

Honeywell Shall Implement

- Provide programming to implement DCV. Verify that the OA damper is providing minimum ventilation rates during the occupied mode and provides tight damper close-off during the unoccupied mode.
- Provide programming to implement night setback control of unit based on occupancy sensor detection.
- Exercise and make necessary OA/RA damper linkage adjustments.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

6) Boiler Run Status:

Add Direct Digital Control boiler run status to both boilers and connect to the existing Invensys Building Management System.

Boiler	AI	AO	DI	DO
Status			2	

Honeywell Shall Implement

- Provide boiler run status.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

**Henry Barnard School – Scope of Work**

1) Re-commissioning:

Re-commission the existing Invensys controls currently installed; including boilers, library and gym RTU, unit vents, finned tube radiation, and cabinet unit heaters.

Honeywell Shall Implement

- Point to point checkout of existing hard-wired points.
- Functional testing of existing sequences of operation.
- Develop a deficiency list of components found to be defective.

2) Pneumatic Hot Water Valves:

Provide Direct Digital Control of the five (5) existing 2-way pneumatic hot water valves. Retrofit the existing valves with new Direct Digital Control actuators and provide five Direct Digital Control space temp sensors for each zone to match existing

Radiation	AI	AO	DI	DO
Valve Actuator		5		
HWS Temperature	5			

Honeywell Shall Implement

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Provide night setback and space temp control.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

3) Exhaust Fans:

Provide Direct Digital Control start/stop control and status of three (3) exhaust fans.

<b>Exhaust Fan (Typical of 3)</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Fan S/S				3
Fan Status			3	

Honeywell Shall Implement

- Install new relays to provide start/stop control.
- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

4) Existing Electric Valve:

Provide Direct Digital Control of the one (1) existing electric stand-alone valve on the cafeteria finned tube radiation and provide a Direct Digital Control space sensor to provide temperature control of the space.

<b>Radiation</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Valve Actuator		1		
Space Temperature	1			

Honeywell Shall Implement

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Provide night setback and space temp control.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

5) Add CO2 and Occupancy Sensor to two (2) RTU/MAU:

Add a total of two (2) CO2 sensor and one (1) space occupancy sensor (gym only) to the existing RTU/MAU that serves the library and gym and provide demand controlled ventilation. TAB OA/RA dampers.

<b>RTU/MAU</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Occupancy Sensor			1	
CO2 Sensor	2			

Honeywell Shall Implement

- Provide programming to implement DCV. Verify that the OA damper is providing minimum ventilation rates during the occupied mode and provides tight damper close-off during the unoccupied mode.
- Provide programming to implement night setback control of unit based on occupancy sensor detection.
- Exercise and make necessary OA/RA damper linkage adjustments.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

6) Wireless Web-Connected Thermostats:

Replace the six (6) existing thermostats in the admin office area that control the Lennox furnaces and one existing thermostat that controls the AHU in the main office area with wireless web-connected thermostats that display, record, and archive space temp and equipment run status. Program the thermostats with a 7-day schedule with occupied and unoccupied heating and cooling setpoints per the IGA REPORT. The thermostat data shall be displayed on a graphic page that is available from the existing Invensys Building Management System.

<b>Furnaces and AHU</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Space Temperature	7			
Run Status			7	

Honeywell Shall Implement

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

7) **Boiler Run Status:**

Add Direct Digital Control boiler run status to both boilers and connect to the existing Invensys Building Management System.

Boiler	AI	AO	DI	DO
Status			2	

**Honeywell Shall Implement**

- Provide boiler run status.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

**Eli Whitney School – Scope of Work**

1) **Upgrade Network 8000 Building Management System:**

Upgrade old Network 8000 Building Management System to the new JACE AX controller to allow integration into new Building Management System.

**Honeywell Shall Implement**

- Install new JACE AX controller to allow existing Invensys controls to be integrated into the new Building Management System.
- New graphics for existing units showing proper points and associating alarm points with their respective graphic pages.

2) **Re-Commissioning:**

Re-commission the existing Invensys controls currently installed; including boilers, library and gym RTU, unit vents, finned tube radiation, and cabinet unit heaters.

**Honeywell Shall Implement**

- Point to point checkout of existing hard-wired points.
- Functional testing of existing sequences of operation.
- Develop a deficiency list of components found to be defective.

3) **Existing Electric Valve:**

Provide Direct Digital Control of the one (1) existing stand-alone electric valve on the cafeteria finned tube radiation and provide a Direct Digital Control space sensor to provide temperature control of the space.

Radiation	AI	AO	DI	DO
Valve Actuator		1		
HWS Temperature	1			

**Honeywell Shall Implement**

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Provide night setback and space temp control.

4) **Add CO2 and Occupancy Sensor to RTU/MAU:**

Add two (2) CO2 sensors and a space occupancy sensor (gym only) to the existing RTU/MAU that serves the library and gym and provide demand controlled ventilation. TAB OA/RA dampers.

RTU/MAU	AI	AO	DI	DO
Occupancy Sensor			1	
CO2 Sensor	2			

**Honeywell Shall Implement**

- Provide programming to implement DCV. Verify that the OA damper is providing minimum ventilation rates during the occupied mode and provides tight damper close-off during the unoccupied mode.

- Provide programming to implement night setback control of unit based on occupancy sensor detection.
- Exercise and make necessary OA/RA damper linkage adjustments.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

5) PTAC Control:

Provide Direct Digital Control of the two (2) PTAC units in the main office area.

PTAC	AI	AO	DI	DO
Space Temperature	2			
Enable/Disable				2

Honeywell Shall Implement

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Provide night setback and space temp control.

6) Thermostatic Radiator Valves:

Provide five (5) stand-alone thermostatic radiator valves (TRV) on small misc hot water radiators located in four (4) bathrooms and one closet.

Honeywell Shall Implement

- Install TRVs with locking mechanisms on misc. radiators and set to 58F.

7) Boiler Run Status:

Add Direct Digital Control boiler run status to both boilers and connect to the existing Invensys Building Management System.

Boiler	AI	AO	DI	DO
Status			2	

Honeywell Shall Implement

- Provide boiler run status.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

**Prudence Crandall School – Scope of Work**

1) Re-Commissioning:

Re-commission the existing Invensys controls currently installed; including boilers, library RTU, gym MAU, unit vents, finned tube radiation, and cabinet unit heaters.

Honeywell Shall Implement

- Point to point checkout of existing hard-wired points.
- Functional testing of existing sequences of operation.
- Develop a deficiency list of components found to be defective.

2) Existing Pneumatic Hot Water Valves:

Provide Direct Digital Control of the eight (8) existing 2-way pneumatic hot water valves. Retrofit the existing valves with new Direct Digital Control actuators and provide eight Direct Digital Control space temp sensors for each zone to match existing.

Radiation	AI	AO	DI	DO
Valve Actuator		8		
HWS Temperature	8			

Honeywell Shall Implement

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Provide night setback and space temp control.

3) Thermostatic Radiator Valves:

Provide four (4) thermostatic radiator valves (TRV) on small misc hot water radiators located in bathrooms and closet areas.

Honeywell Shall Implement

- Install TRVs with locking mechanisms on misc. radiators and set to 58F.

4) Thermostatic Radiator Valves:

Provide ten (10) thermostatic radiator valves (TRV) on cabinet unit heaters located throughout the entryways and corridors.

Honeywell Shall Implement

- Install TRVs with locking mechanisms on misc. radiators and set to 58F.

5) Exhaust Fans:

Provide Direct Digital Control start/stop control and status of three (3) exhaust fans.

<b>Exhaust Fan (Typical of 3)</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Fan S/S				3
Fan Status			3	

Honeywell Shall Implement

- Install new relays to provide start/stop control.
- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

6) Add CO2 and Occupancy Sensor to RTU/MAU:

Add two (2) CO2 sensors and one (1) space occupancy sensor (gym only) to the existing RTU/MAU that serves the library and gym and provide demand controlled ventilation. TAB OA/RA dampers.

<b>RTU/MAU</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Occupancy Sensor			1	
CO2 Sensor	2			

Honeywell Shall Implement

- Provide programming to implement DCV. Verify that the OA damper is providing minimum ventilation rates during the occupied mode and provides tight damper close-off during the unoccupied mode.
- Provide programming to implement night setback control of unit based on occupancy sensor detection.
- Exercise and make necessary OA/RA damper linkage adjustments.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

7) Wireless Web-Connected Thermostats:

Replace the two (2) existing thermostats in the main office area that control the fan coil units with wireless web-connected thermostats that display, record, and archive space temp and equipment run status. Program the thermostats with a 7-day schedule with occupied and unoccupied heating and cooling setpoints per the spec. The thermostat data shall be displayed on a graphic page that is available from the existing Invensys Building Management System.

<b>Furnaces and AHU</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Space Temperature	2			
Run Status			2	

Honeywell Shall Implement

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

8) Boiler Run Status:

Add Direct Digital Control boiler run status to both boilers and connect to the existing Invensys Building Management System.

Boiler	AI	AO	DI	DO
Status			2	

Honeywell Shall Implement

- Provide boiler run status.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

**Nathan Hale School – Scope of Work**

1) Re-Commissioning:

Re-commission the existing Invensys controls currently installed; including boilers, library RTU, gym MAU, unit vents, finned tube radiation, and cabinet unit heaters.

Honeywell Shall Implement

- Point to point checkout of existing hard-wired points.
- Functional testing of existing sequences of operation.
- Develop a deficiency list of components found to be defective.

2) Existing Pneumatic Hot Water Valves:

Provide Direct Digital Control of the seven existing 2-way pneumatic hot water valves. Retrofit the existing valves with new Direct Digital Control actuators and provide seven (7) Direct Digital Control space temp sensors for each zone to match existing.

Radiation	AI	AO	DI	DO
Valve Actuator		7		
HWS Temperature	7			

Honeywell Shall Implement

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Provide night setback and space temp control.

3) Thermostatic Radiator Valves:

Provide four (4) thermostatic stand-alone radiator valves (TRVs) on existing cabinet unit heaters in the corridors.

Honeywell Shall Implement

- Install TRVs with locking mechanisms on cabinet unit heaters and set to 58F.

4) Add CO2 and Occupancy Sensor to RTU/MAU:

Add two (2) CO2 sensors and a space occupancy sensor (gym only) to the existing RTU/MAU that serves the library and gym and provide demand controlled ventilation. TAB OA/RA dampers.

RTU/MAU	AI	AO	DI	DO
Occupancy Sensor			1	
CO2 Sensor	2			

Honeywell Shall Implement

- Provide programming to implement DCV. Verify that the OA damper is providing minimum ventilation rates during the occupied mode and provides tight damper close-off during the unoccupied mode.
- Provide programming to implement night setback control of unit based on occupancy sensor detection.
- Exercise and make necessary OA/RA damper linkage adjustments.



- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

5) Boiler Run Status:

Add Direct Digital Control boiler run status to both boilers and connect to the existing Invensys Building Management System.

Boiler	AI	AO	DI	DO
Status			2	

Honeywell Shall Implement

- Provide boiler run status.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

**Edgar Parkman School – Scope of Work**

1) Upgrade Network 8000 Building Management System:

Upgrade old Network 8000 Building Management System to the new JACE AX controller to allow integration into new Building Management System.

Honeywell Shall Implement

- Install new JACE AX controller to allow existing Invensys controls to be integrated into the new Building Management System.
- New graphics for existing units showing proper points and associating alarm points with their respective graphic pages.

2) Re-Commissioning:

Re-commission the existing Invensys controls currently installed; including boilers, library and gym RTU, unit vents, finned tube radiation, and cabinet unit heaters. Perform point to point checkout of existing hard-wired points and testing of existing sequences of operation. Develop a deficiency list of components found to be defective.

3) Existing Pneumatic Hot Water Valves:

Provide Direct Digital Control of the five (5) existing 2-way pneumatic hot water valves. Retrofit the existing valves with new Direct Digital Control actuators and provide five (5) Direct Digital Control space temp sensors for each zone to match existing.

Radiation	AI	AO	DI	DO
Valve Actuator		5		
Space Temperature	5			

Honeywell Shall Implement

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Provide night setback and space temp control.

4) Exhaust Fans:

Provide Direct Digital Control start/stop control and status of three (3) exhaust fans.

Exhaust Fan (Typical of 3)	AI	AO	DI	DO
Fan S/S				3
Fan Status			3	

Honeywell Shall Implement

- Install new relays to provide start/stop control.
- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

5) Existing Electric Valve:

Provide Direct Digital Control of the one (1) existing stand-alone electric valve on the cafeteria finned tube radiation and provide a Direct Digital Control space sensor to provide temperature control of the space.

<b>Radiation</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Valve Actuator		1		
HWS Temperature	1			

Honeywell Shall Implement

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Provide night setback and space temp control.

6) Add CO2 and Occupancy Sensor to RTU/MAU:

Add two (2) CO2 sensors and one (1) space occupancy sensor (gym only) to the existing RTU/MAU that serves the library and gym and provide demand controlled ventilation. TAB OA/RA dampers.

<b>RTU/MAU</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Occupancy Sensor			1	
CO2 Sensor	2			

Honeywell Shall Implement

- Provide programming to implement DCV. Verify that the OA damper is providing minimum ventilation rates during the occupied mode and provides tight damper close-off during the unoccupied mode.
- Provide programming to implement night setback control of unit based on occupancy sensor detection.
- Exercise and make necessary OA/RA damper linkage adjustments.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

7) PTAC Control:

Provide Direct Digital Control of the two (2) PTAC units in the main office area.

<b>Unit Ventilator</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Space Temperature	2			
Enable/Disable				2

Honeywell Shall Implement

- Occupied/Unoccupied schedules and setpoints as outlined in the IGA REPORT.
- Provide night setback and space temp control.

8) Thermostatic Radiator Valves:

Provide and install nine (9) stand-alone TRVs on the existing nine (9) hot water cabinet unit heaters in the corridors and finned tube radiation in misc closets and bathrooms.

Honeywell Shall Implement

- Install TRVs with locking mechanisms on misc. radiators and set to 58F.

9) Boiler Run Status:

Add Direct Digital Control boiler run status to both boilers and connect to the existing Invensys Building Management System.

<b>Boiler</b>	<b>AI</b>	<b>AO</b>	<b>DI</b>	<b>DO</b>
Status			2	

Honeywell Shall Implement

- Provide boiler run status.
- Graphics for units showing proper points and associating alarm points with their respective graphic pages.

### **Building Management System Retro-Commissioning:**

Retro-commissioning (RCx) is the systematic process of verifying that the existing Invensys Building Management System (BMS) is performing in accordance with the original design documents and overall basis of design. The RCx plan below outlines the commissioning process for verifying the operations and performance of the existing BMS. The table below details the proposed RCx activities for the existing Invensys BMS:

<b>Buildings Included in this Scope of Work</b>
Head Start
JFK Middle School
Hazardville Memorial School
Enfield Street School
Thomas Alcorn School
Harriet Beecher Stowe School
Henry Barnard School
Eli Whitney School
Prudence Crandall School
Nathan Hale School
Edgar Parkman School

For details on the existing Invensys controls and the various pieces of equipment associated with the RCx scope, please see individual building sections listed in ECM 5.

### **Scope of Work**

- 1) Perform pre-functional inspections
- 2) Perform point-to-point checkout
- 3) Verification of sequences of operation
- 4) Implementation of occupancy schedules
- 5) Functional testing of end devices
- 6) Review of front end graphic screens for accuracy
- 7) Development of a deficiency list

Notes:

- a) Honeywell has carried a \$100,000 allowance to correct mechanical deficiencies identified during the RCx process (i.e. replacement of damaged dampers, actuators, valves, etc.)

### **Demand Control Ventilation – Fan Variable Frequency Drives:**

The following fans will have variable frequency drives (VFDs) installed on their fans as part of demand control ventilation implementation:

<b>Building</b>	<b>Location Served</b>	<b>Supply Fan Motor HP</b>	<b>Return Fan Motor HP</b>	<b>Install VFD(s) (Y/N)</b>
Nathan Hale School	Cafeteria	7.5	-	Y
Thomas Alcorn School	Gymnasium	5.0	3.0	Y
Harriet Beecher Stowe School	Cafeteria	5.0	-	Y
Head Start	Classrooms	5.0	5.0	Y

### **Scope of Work**

- 1) Furnish and install VFDs on the fan motors listed in the table above
- 2) Existing motors are inverter duty and shall be reused. No motor replacements or repairs are included.
- 3) Furnish and install all power and control wiring
- 4) Integrate VFDs into the building automation system
- 5) Start up, test and commission

### **Valve Replacement Work:**

The following valve replacement work is included in this scope of work:

#### **Scope of Work**

- 1) Furnish and install seventy nine (79) valves for the existing unit ventilators at JFK Middle School

Notes:

- a) All other piping and fittings on either side of the valve are excluded

### **Air Balancing:**

The Boy's Locker Room at JFK Middle School is no longer able to return air to the H&V unit serving the space due the addition of walls and changes to the space layout over time.

#### **Scope of Work**

- 1) Furnish and install transfer grilles in the Boys Locker Room at JFK Middle School as required to create a path for return air to reach the H&V unit serving the space

## **ESM #6: Building Envelope Improvements**

Summary of facilities included for Building Envelope Improvements:

LOCATION	
School Facilities	Town Facilities
JFK Middle School	Emergency Medical services
Eli Whitney School	Enfield Senior Center
Hazardville Memorial School	Pearl Street Library
Nathan Hale School	Central Library
Henry Barnard School	Lamagna Activity Center
Edgar Parkman School	Enfield Town Hall
Prudence Crandall School	Department of Public Works
Enfield Street School	Enfield Police Department
Thomas Alcorn School	Adult Day Care
Harriet Beecher Stowe School	Family Resource Center
Head Start School	Buildings and Grounds

*Table A-6*

#### **Scope of Work**

- 1) Honeywell shall provide all equipment, materials and labor to implement the Building Envelope Improvements project as specified in the IGA REPORT Exhibit 18.
- 2) Upon completion of work verify door alignment with frame, ensure proper door closure, through adjustment only, and verify no significant gaps between doors and frames.
- 3) No interior doors are included.
- 4) No painting, patching, door, door operator, or floor repair or replacement is included.

## **ESM #7: Water Conservation**

Table A-7 summarizes the Facilities included for this measure:

LOCATION	
School Facilities	Town Facilities
JFK Middle School	Emergency Medical services
Eli Whitney School	Enfield Senior Center
Hazardville Memorial School	Pearl Street Library
Nathan Hale School	Central Library
Henry Barnard School	Angelo Lamagna Activity Center
Edgar Parkman School	Enfield Town Hall
Prudence Crandall School	Department of Public Works
Enfield Street School	Enfield Police Department
Thomas Alcorn School	Adult Day Care
Harriet Beecher Stowe School	Family Resource Center
Head Start School	

Table A-7

### **Scope of Work**

- 1) Honeywell shall provide all equipment, materials, and labor to implement the water conservation project in accordance with the IGA REPORT Exhibit 7.
- 2) Toilet Upgrades Summary:
  - a) Commercial flush valve toilets will be replaced with new American Standard Madera FloWise flushmeter valve toilets or approved equal. Gravity tank toilets will be replaced with new American Standard Cadet 3 FloWise gravity toilets or equivalent. Toilets to be outfitted with new Centoco (or equivalent) commercial open front plastic seats (white color), less cover.
  - b) If a handicap accessible stall with hand rails has been installed to modify an existing bathroom for ADA compliance and the toilet is not at ADA height, we will attempt to make the toilet in this stall meet ADA guidelines. To accomplish this, floor mounted ADA toilets will be replaced with new ADA height toilets.
  - c) New toilets will be installed with new control stop valves or angle stop valves.
  - d) All toilet bowls will be securely connected to water supply lines and waste connections. Minor repairs to floor mount toilet flanges will be made to ensure secure toilet bowl connections. Floor mount toilet flanges will be repaired as needed with a repair anchor flange, Cast Iron Flange Repair Ring anchored to the floor with 4 tap-con bolts or spanner flanges
  - e) Minor repairs to water supply connections include replacement of 1" horizontal water lines, as required, to rough plumb flush valves when installing new toilet bowls. All piping modifications will be made with material that complies with standard trade practice and like to existing materials.
- 3) Urinal Upgrades Summary:
  - a) Flush valves will be installed to the minimum required height of 6" above the flood plain (urinal rim) as required by plumbing code
  - b) All new urinal valves will be installed with new control stop valves
- 4) Faucets shall be upgraded with tamper-proof aerators
- 5) Broken carriers and carrier bolts are not included for replacement.
- 6) Painting, tile work, and wall repair is not included.
- 7) The Customer shall be responsible to locate and turn off isolation valves prior to starting work in each building.
- 8) Honeywell shall provide a proposal for any work not included at the request of the Customer.

### **Notes:**

- a) The Town will be notified of any issues encountered during installation.

**ESM #8: Walk-In Freezer/Cooler Controls**

Building	Qty Walk-In Freezers	Qty Walk-In Coolers
JFK Middle School	2	1

*Table A-8***Scope of Work:**

- 1) Install Intellidyne or approved equal walk-in freezer and cooler controllers listed in the table above
- 2) Install wiring
- 3) Control systems shall be stand-alone and will not connect to the BMS. Control system shall have locally displayed alarm.
- 4) Start up, test, and commission per manufacturer's recommendations

**ESM #9: Desktop Computer Power Management**

Install a centralized personal computer power management system. The Surveyor software by Verdiem enables centralized control of desktop computer operation throughout the District and Town facilities.

LOCATION		
Building	# of Administrative Computers	# of Student Computers
Emergency Medical Services	9	-
Enfield Senior Center	23	-
Pearl Street Library	2	-
Central Library	20	-
Lamagna Activity Center	16	-
Enfield Town Hall	69	-
Department of Public Works	44	-
Adult Day Care	6	-
Family Resource Center	7	-
Buildings and Grounds	5	-
JFK Middle School	-	149
Eli Whitney School	-	71
Hazardville Memorial School	-	28
Nathan Hale School	-	59
Henry Barnard School	-	69
Edgar Parkman School	-	65
Prudence Crandall School	-	71
Enfield Street School	-	65
Thomas Alcorn School	-	50
Harriet Beecher Stowe School	-	60
Head Start	-	9
<b>Total</b>	<b>201</b>	<b>696</b>

*Table A-9***Scope of Work**

- 1) Provide eight hundred ninety seven (897) licenses for Verdiem Surveyor software or equivalent for desktop computer power management as detailed in the table above. Honeywell will provide technical assistance to

expedite the installation of the new software. The Town will install the software and push it down to the end-user machines.

- 2) Start-up, test and commission.
- 3) Maintenance, including full tech support and product upgrades for one (1) year on Surveyor software. Town to work directly with Verdiem (or equal software firm) on any on-going support, maintenance issue, or software upgrade during this period.
- 4) Town to purchase from and coordinate with Verdiem all updates from years 2 through 15

#### **ESM #10: Computer Peripheral Power Management**

<b>Building</b>	<b>Qty of Power Strips</b>	<b>Qty of Charging Stations</b>
JFK Middle School	85	4
Eli Whitney School	34	3
Hazardville Memorial School	28	2
Nathan Hale School	25	2
Henry Barnard School	44	2
Edgar Parkman School	32	3
Prudence Crandall School	31	3
Enfield Street School	25	3
Thomas Alcorn School	16	-
Harriet Beecher Stowe School	24	-
<b>Total</b>	<b>344</b>	<b>22</b>

*Table A-10*

#### **Scope of Work**

1. Provide only 344 power strips for classroom computers, monitors, and locally connected printers
2. Provide only twenty-two (22) power charging stations for laptop and iPad charging carts.
3. Customer shall install 344 power strips and twenty-two power charging stations as detailed in Table A-10.

#### **ESM #11: Plug Load Power Management**

<b>Building</b>	<b># of Units</b>
JFK Middle School	34
Eli Whitney School	34
Hazardville Memorial School	20
Nathan Hale School	3
Henry Barnard School	5
Edgar Parkman School	3
Prudence Crandall School	35
Enfield Street School	16
Thomas Alcorn School	1
Harriet Beecher Stowe School	6
<b>Total</b>	<b>157</b>

*Table A-11*

### **Scope of Work**

- 1) Furnish only 157 BERT or approved equal Wi-Fi programmable timers to turn off Window Air Conditioning Units during unoccupied periods as detailed in the table above.
- 2) Customer shall provide an accessible wi-fi network configuration for the plugs
- 3) Customer shall install 157 BERT, or equivalent Wi-Fi programmable timers per Table A-11 and configure on network.
- 4) Honeywell will provide technical assistance to expedite the installation of the new software.

### **ESM #12: Pipe Insulation**

<b>Insulation Thickness Recommendations</b>		
<b>Pipe Diameter</b>	<b>Insulation Type</b>	<b>Recommended Insulation Thickness</b>
1.5 Inch and lower	Fiberglass	1.5"
2 Inch to 5 Inch	Fiberglass	2"
5 Inch and above	Fiberglass	2-1/2"

*Table A-12.1*

### **Scope of Work**

- 1) Insulate heating hot water, steam, steam condensate, and domestic hot water piping quantities with appropriate insulation thicknesses as indicated in the tables above
- 2) Honeywell shall provide all equipment, materials and labor to insulate existing heating hot water, steam, steam condensate, and domestic hot water piping as specified in the IGA REPORT Exhibit 8.
- 3) Any pipe insulation not identified on the IGA REPORT Pipe Insulation Line by Line excluded. Honeywell shall provide a proposal for any work not included at the request of Customer.
- 4) Repair or replacement of existing pipe insulation is not included.
- 5) Insulation jackets on equipment included shall match existing pipe insulation in appearance.

#### ***Notes:***

- a) Insulation jackets will match existing appearance
- b) Pipe insulation work is confined to boiler and mechanical rooms.



**ATTACHMENT C**  
**INSTALLATION SCHEDULE**

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ATTACHMENT C  
CONSTRUCTION AND INSTALLATION SCHEDULE

Wed 7/22/15

ID	Task Name	Start	Finish	Qtr 3, 2015			Qtr 4, 2015		Qtr 1, 2016			Qtr 2, 2016			Qtr 3, 2016			Qtr 4, 2016					
				Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov		Dec	
1	Notice To Proceed	Mon 11/16/15	Mon 11/16/15	<div></div>	Notice To Proceed <div></div>																		<div></div>
2	Engineering	Tue 11/17/15	Fri 12/18/15		Engineering <div></div>																		
3	Mobilization / Equipment Ordering	Mon 11/30/15	Fri 1/1/16		Mobilization / Equipment Ordering <div></div>																		
4	ESM 1 Lighting & Lighting Controls	Mon 1/4/16	Fri 7/15/16		ESM 1 Lighting & Lighting Controls <div></div>																		
5	ESM 2 Street Lighting	Mon 3/14/16	Fri 10/28/16		ESM 2 Street Lighting <div></div>																		
6	ESM 3 Boiler Replacements & Pump Upgrades	Mon 5/2/16	Fri 10/14/16		ESM 3 Boiler Replacements & Pump Upgrades <div></div>																		
7	ESM 4 Replace Multi-Zone AHU & Cooling System	Mon 4/11/16	Fri 5/27/16		ESM 4 Replace Multi-Zone AHU & Cooling System <div></div>																		
8	ESM 5 Building Management System Upgrades	Mon 1/4/16	Fri 10/28/16		ESM 5 Building Management System Upgrades <div></div>																		
9	ESM 6 Building Envelope Improvements	Mon 5/2/16	Fri 9/23/16		ESM 6 Building Envelope Improvements <div></div>																		
10	ESM 7 Water Conservation	Mon 2/1/16	Mon 4/4/16		ESM 7 Water Conservation <div></div>																		
11	ECM 8 Walk-In Freezer/Cooler Controls	Mon 1/4/16	Fri 2/12/16		ECM 8 Walk-In Freezer/Cooler Controls <div></div>																		
12	ESM 9 Desktop Computer Power Management	Mon 2/29/16	Fri 4/29/16		ESM 9 Desktop Computer Power Management <div></div>																		
13	ESM 10 Computer Peripheral Power Management	Mon 2/29/16	Fri 6/24/16		ESM 10 Computer Peripheral Power Management <div></div>																		
14	ESM 11 Plug Load Power Management	Mon 5/2/16	Fri 6/24/16		ESM 11 Plug Load Power Management <div></div>																		
15	ESM 12 Pipe Insulation	Mon 1/4/16	Fri 3/25/16		ESM 12 Pipe Insulation <div></div>																		
16	Commissioning	Mon 10/31/16	Fri 11/11/16		Commissioning <div></div>																		
17	Substantial Completion	Fri 11/11/16	Fri 11/11/16		Substantial Completion <div></div>																		
18	Punch List	Mon 11/14/16	Fri 11/25/16		Punch List <div></div>																		
19	Training	Mon 11/14/16	Fri 11/25/16		Training <div></div>																		
20	Final Completion	Fri 11/25/16	Fri 11/25/16		Final Completion <div></div>																		

Note: Honeywell reserves the right to adjust the project schedule based on the date of the notice to proceed.



**ATTACHMENT D**  
**SUPPORT SERVICES AGREEMENT**  
**GUARANTEED SAVINGS MEASUREMENT AND VERIFICATION**

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**Scope of Services:** HONEYWELL shall provide the Measurement and Verification Services (“the Services”) in accordance with the terms and conditions in the Agreement, this Attachment D, Attachment F and Schedule A.

**Part A – Support Services Terms & Conditions**

**Part B – GUARANTEE RESPONSIBILITIES**

**Contract Term:** 15 years from the Effective Date.

**Contract Effective Date:** Commencement of the Energy Guarantee following Final Acceptance

**Price for Year 1:** Fifty Nine Thousand dollars, (\$59,000), (plus applicable taxes).

**Payment Terms:** Monthly in arrears.

☐ Sales Tax will be invoiced separately    ☐ Use Tax is included in the Price    ☐ This sale is tax exempt

## **PART A. Standard Terms and Conditions for Support Services**

### **1. WORKING HOURS**

**1.1** Unless otherwise stated, all labor and Support Services will be performed during the hours of 8:00 a.m. - 4:30 p.m. local time Monday through Friday, excluding federal holidays. If for any reason CUSTOMER requests HONEYWELL to furnish any labor or services outside of the hours of 8:00 a.m. - 4:30 p.m. local time Monday through Friday (or on federal holidays), any overtime or additional expenses, such as repairs or material costs not included in this Support Services Agreement, will be billed to and paid by CUSTOMER.

### **2. TAXES**

**2.1** CUSTOMER agrees to pay the amount of any new or increased taxes or governmental charges upon labor or the production, shipment, sale, installation, or use of equipment or software which become effective after the date of this Agreement. If CUSTOMER claims any such taxes do not apply to transactions covered by this Support Services Agreement, CUSTOMER shall provide HONEYWELL with a tax exemption certificate acceptable to the applicable taxing authorities.

### **3. PROPRIETARY INFORMATION**

**3.1** All proprietary information (as defined herein) obtained by CUSTOMER from HONEYWELL in connection with this Support Services Agreement will remain the property of HONEYWELL, and CUSTOMER will not divulge such information to any third party without prior written consent of HONEYWELL. The term "proprietary information" means written information (or oral information reduced to writing), or information in machine-readable form, including but not limited to software supplied to CUSTOMER which HONEYWELL deems proprietary or confidential and characterizes as proprietary at the time of disclosure to CUSTOMER by marking or labeling the same "Proprietary", "Confidential", or "Sensitive". The CUSTOMER shall incur no obligations hereunder with respect to proprietary information which: (a) was in the CUSTOMER'S possession or was known to the CUSTOMER prior to its receipt from HONEYWELL; (b) is independently developed by the CUSTOMER without the utilization of such confidential information of HONEYWELL; (c) is or becomes public knowledge through no fault of the CUSTOMER; (d) is or becomes available to the CUSTOMER from a source other than HONEYWELL; (e) is or becomes available on an unrestricted basis to a third party from HONEYWELL or from someone acting under its control; (f) is received by CUSTOMER after notification to HONEYWELL that the CUSTOMER will not accept any further information; or (g) is subject to disclosure pursuant to the Connecticut Freedom of Information Act.

**3.2** Customer agrees that Honeywell may use nonproprietary information pertaining to the Agreement, and the work performed under the Agreement, for press releases, case studies, data analysis, promotional purposes, and other similar documents or statements to be publicly released, as long as Honeywell submits any such document or statement to Customer for its approval, which will not be unreasonably withheld. Honeywell may, during and after the term of this Agreement, compile and use, and disseminate in anonymous and aggregated form, all data and information related to building optimization and energy usage obtained in connection with this Agreement. The rights and obligations in this Section 3 shall survive termination of this Agreement

### **4. MISCELLEANOUS**

**4.1** CUSTOMER agrees to provide access to all Equipment covered by this Support Services Agreement. HONEYWELL will be permitted to start and stop all primary equipment incidental to the operation of the mechanical, control, automation, and life safety system(s), with prior notification to and authorization by CUSTOMER'S designated representative.

**4.2** Upon CUSTOMER'S written authorization, HONEYWELL may install diagnostic devices and/or software at HONEYWELL'S expense to enhance system operation and support. Upon termination of this Support Services Agreement, HONEYWELL shall remove these devices and return the system to its level of operation prior to installation of the diagnostic devices, unless otherwise authorized by CUSTOMER. CUSTOMER agrees to provide, at its sole expense, connection to the switched telephone network for the diagnostic devices and/or software it has authorized to be installed.

**4.3** HONEYWELL will review the Services delivered under this Support Services Agreement on an annual basis, unless otherwise noted.

**4.4** CUSTOMER retains all responsibility for maintaining LANs, WANs, leased lines and/or other communication mediums incidental or essential to the operation of the system(s) or Equipment found included in the attached List of Covered Equipment.

**4.5** CUSTOMER will notify HONEYWELL within 5 business days of any malfunction in the system(s) or Equipment covered under this Support Services Agreement that comes to CUSTOMER'S attention.

## **5. TERMS OF PAYMENT**

**5.1** Each year CUSTOMER will pay or cause to be paid to Honeywell the full price for the Services as specified below as follows: Honeywell will submit Monthly invoices to Customer for Services performed during the previous month, and payment shall be due within thirty (30) days after CUSTOMER'S receipt of each such invoice. Each invoice will detail the services performed during that billing period and the amount due based on the services rendered. Due to the nature of the M&V services the monthly amount billed may fluctuate and the annual price shall serve as a not to exceed amount for each year of the guarantee.

### **5.2 Price Adjustment.**

Annual pricing for this agreement will be as follows for the life of the contract:

<b>Guarantee Year</b>	<b>Agreement Price</b>
Year 1	\$59,000
Year 2	\$60,770
Year 3	\$62,593
Year 4	\$64,471
Year 5	\$66,405
Year 6	\$68,397
Year 7	\$70,449
Year 8	\$72,563
Year 9	\$74,739
Year 10	\$76,982
Year 11	\$79,291
Year 12	\$81,670
Year 13	\$84,120
Year 14	\$86,644
Year 15	\$89,243

## **6. TERMINATION**

**6.1** CUSTOMER may terminate this Support Services Agreement with or without cause with 30 days notice before the beginning of the next Guarantee Year. In the event the notice of termination is received by Honeywell part way through a guarantee year, the savings reconciliation report will not be issued for the partial year that has lapsed.

**6.2** HONEYWELL may not terminate this Support Services Agreement without CUSTOMER'S express written consent, unless CUSTOMER has failed to make payments as agreed herein. In the event CUSTOMER has failed to pay HONEYWELL as agreed herein, HONEYWELL shall give CUSTOMER thirty (30) days written notice of its intent to terminate. If, within thirty (30) days following receipt of such notice, CUSTOMER fails to make the payments then due, or otherwise fails to cure or perform its obligations, HONEYWELL may, by written notice to CUSTOMER, terminate this Support Services Agreement and recover from CUSTOMER payment for Services performed prior to termination.

**6.3 Cancellation** - This Support Services Agreement may be canceled at CUSTOMER'S option in the event the equipment on CUSTOMER'S premises is destroyed or substantially damaged (or the buildings are destroyed or substantially damaged). In the event of such cancellation, neither party shall be liable for damages or subject to any penalty, except that CUSTOMER will remain liable for Services performed to the date of cancellation. In the event equipment or building(s) are destroyed or significantly damaged, HONEYWELL and CUSTOMER may elect to equitably adjust the Savings Guarantee and propose a reduction in the Guaranteed Savings Measurement and Verification services to be performed. Any such adjustments shall be documented in writing signed by both parties.

## **7. DEFINITIONS**

**7.1** “Covered Equipment” means the equipment and software impacted by the M&V Services or having an impact on the energy savings.

**7.2** “Services” means those services and obligations to be undertaken by HONEYWELL in support of, or to maintain, the Covered Equipment, as more fully detailed in the attached Service Scope Descriptions, which are a part of this Support Services Agreement.

## **8. APPROPRIATIONS AND ESSENTIAL USE**

**8.1** CUSTOMER reasonably believes that sufficient funds can be obtained to make all payments for the initial term, as described on the first page of this Support Services Agreement. CUSTOMER hereby covenants that it shall do all things lawfully within its power to obtain funds from which such payments may be made, including making provisions for such payments, to the extent necessary, in each budget submitted for the purpose of obtaining funding, using its bona fide best efforts to have such portion of the budget approved. It is CUSTOMER’S intent to make the payments for the initial term if funds are legally available therefore and in that regard CUSTOMER represents that (a) the use of the Equipment and Services is essential to its proper, efficient and economic functioning or to the services that is provided to its citizens; (b) CUSTOMER has an immediate need for and expects to make immediate use of substantially all the Equipment and Services, which need is not temporary or expected to diminish in the foreseeable future; and (c) the Equipment and Services shall be used by CUSTOMER only for the purpose of performing one or more of its governmental or proprietary functions consistent with the permissible scope of its authority.

**8.2.** In the event no funds or insufficient funds are appropriated and budgeted for the acquisition, retention or operation of the Equipment and Services under the Support Services Agreement, then CUSTOMER shall, not less than sixty (60) days prior to the end of such applicable fiscal period, in writing, notify HONEYWELL (and its assignee, if any) of such occurrence. The Support Services Agreement shall thereafter terminate and be rendered null and void on the last day of the fiscal period for which appropriations were made without penalty, liability or expense to CUSTOMER of any kind, except as to (i) the portions of the payments herein agreed upon for which funds have been appropriated and budgeted or are otherwise available, and (ii) CUSTOMER’S other obligations and liabilities under the Agreement relating to, accruing or arising prior to such termination. In the event of such termination, CUSTOMER agrees to peaceably surrender possession of any Equipment (provided by HONEYWELL under the Support Services Agreement and not paid for by CUSTOMER) to HONEYWELL (or its assignee, if any) on the date of such termination, packed for shipment in accordance with manufacturer’s specifications and eligible for manufacturer’s maintenance, and freight prepaid and insured to any location in the continental United States designated by HONEYWELL, all at CUSTOMER’S expense. HONEYWELL (or its assignee, if any) may exercise all available legal and equitable rights and remedies in retaking possession of any Equipment provided by HONEYWELL under this Support Services Agreement.



## **PART B. GUARANTEE RESPONSIBILITIES**

### **1. HONEYWELL RESPONSIBILITIES**

#### **1.1 Measurement and Verification of Annual Savings**

1.1.1 Consistent with the Measurement and Verification Plan included in Schedule A to the Agreement and the Performance Guarantees described in Attachment F to the Agreement, HONEYWELL shall carry out such measurements and analysis required to confirm and quantify any Measured Savings in each Guarantee Year, determine whether those Measured Savings meet or exceed Guaranteed Savings for each Guarantee Year, and determine any savings shortfall for that Guarantee Year. ESM's that employ the Option A M&V method will be measured one time pre and post retrofit to determine the potential to perform the guaranteed savings. Thereafter, visual inspection will provide the assurance of ongoing potential to perform on all ESM's except the ESM's included in the Quarterly Operational Review, which will have quarterly verification based on the data collected. ESM's that employ the Option C Method will have the period utility bill information input to the 3<sup>rd</sup> party utility bill analysis software, and the post retrofit baseline (including adjustments) will be compared to the actual post retrofit consumption to determine energy savings. Measured Savings will be monetized each year based on the measured performance and the utility unit costs as defined in the contract.

1.1.2 HONEYWELL shall maintain documentation of measurements taken and analysis performed.

1.1.3 HONEYWELL shall calculate the monetary value of any savings shortfall in a Guarantee Year for reconciliation payments to be made to CUSTOMER per Attachment F.

1.1.4 Within 90 days of the end of the Guarantee Year, HONEYWELL shall submit a report of findings to CUSTOMER per Attachment F, subject to CUSTOMER fulfilling their responsibilities in this attachment and Attachment F.

1.1.5 HONEYWELL shall present each annual report of findings in a meeting with CUSTOMER'S designated representatives.

#### **1.2 Quarterly Review of BMS Operations**

1.2.1 Consistent with the Measurement and Verification Plan included in Schedule A to the Agreement and the Performance Guarantees described in Attachment F to the Agreement, HONEYWELL shall perform a Quarterly Review of BMS Operations and provide a report which will be reviewed each quarter with customer. The quarterly report will include observations relative to HVAC equipment schedules, set points, and zone thermostat set-points connected to BMS equipment installed or modified by HONEYWELL as part of the Work. The review will be used to identify deviations relative to zone set point, occupied and unoccupied status, and system start/stop, looking specifically for overrides and non-compliance with contractually agreed to parameters. The observations will be indicated in the Operational Review Report, and will be delivered via email, with a follow up scheduled conference call to discuss recommendations and potential impact. Where practical, the report should also identify Material Changes in operations identified to HONEYWELL by CUSTOMER during the quarter.

1.2.2 Consistent with the start of the Performance Guarantee following Final Completion and Final Acceptance, the Operational Review Report is subject to CUSTOMER fulfilling their responsibilities in this Attachment D and in Attachment F to provide Access for Remote Diagnostics.

1.2.3 HONEYWELL shall submit a report of findings to CUSTOMER within 45 days of the end of each three-month period.

1.2.4 Customer has the option to discontinue and or reduce the scope of the Quarterly Review of BMS Operations by providing written notice to Honeywell a minimum of 60 days prior to the anniversary of the commencement of the Energy Guarantee. Within 30 days of receipt of such notice Honeywell shall present the Customer with the resulting reduction in M & V Services price and once price and scope are agreed upon the parties shall document the change to the services and price by addendum signed by both parties.

### **2. CUSTOMER RESPONSIBILITIES**

#### **2.1 Access to Buildings and Equipment**

**2.1.1** CUSTOMER shall provide access to all buildings and equipment covered by this Support Services Agreement.

**2.1.2** CUSTOMER shall permit HONEYWELL to measure and meter the performance of all Covered Equipment.

**2.2 Access to Maintenance Records**

**2.2.1** CUSTOMER shall operate and maintain all Covered Equipment consistent with manufacturers' and other agreed to requirements and standards and shall keep records, as appropriate, of maintenance activities.

**2.2.2** CUSTOMER shall share maintenance records with HONEYWELL upon request.

**2.2.3** CUSTOMER shall conduct annual steam trap leak survey and provide HONEYWELL a copy of the resultant report.

**2.3 Access to Energy Use and Cost information**

**2.3.1** CUSTOMER shall provide monthly energy bills and other energy use information to HONEYWELL, or shall arrange to have energy suppliers provide such information directly to HONEYWELL, or shall assist HONEYWELL to secure direct access to such information, if available, from supplier websites, etc. CUSTOMER shall send all current utility bills to HONEYWELL within thirty (30) days after receipt by CUSTOMER, if CUSTOMER fails to provide current utility bills for a period of time in excess of three (3) months HONEYWELL will send CUSTOMER written notice that it must send HONEYWELL copies of the utility bills and if CUSTOMER still fails to comply within thirty (30) days from written notice, HONEYWELL may, adjust the Guarantee Savings obligation in accordance with Attachment F.

## ATTACHMENT E PAYMENT SCHEDULE

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### **1. The following payment schedule has been established for the Work:**

1.1 The payment schedule reflected below has been established for the Work. Honeywell shall submit monthly applications for payment based on work performed including invoice and schedule of values as shown in Exhibit E-1. The Town of Enfield Facility Manager shall review and either accept payment application in writing within five (5) days of submission by Honeywell or dispute the payment application in accordance with section 1.2 below. Payment shall be made net twenty five (25) days of payment application approval (30 days from invoice date). In the event Customer's payment to Honeywell is late Honeywell shall provide written notice to Customer reminding Customer to issue payment. If issues surrounding lack of payment are not remedied within ten (10) business days after Customer's receipt of Honeywell's reminder notice, Honeywell may suspend all Work until payment is made.

Honeywell's not to exceed price:	\$10,346,887
CUSTOMER controlled contingency:	\$517,344

resulting in a total project price of Ten Million Eight Hundred Sixty Four Thousand Two Hundred Thirty One Dollars (\$10,864,231) not including amounts budgeted for Peregrine's fee and the Library Gas Piping expense.

### **1.2 Disputed Amounts**

Where CUSTOMER disputes any charges for invoiced Work or determines that the Work completed with respect to particular ESMs is not satisfactory, CUSTOMER may withhold payment of disputed amounts and notify HONEYWELL promptly regarding the disputed amount and the reason for the dispute so that HONEYWELL can remediate the issue as necessary.

### **2.0 Billable amounts**

HONEYWELL may invoice CUSTOMER in accordance with the Schedule of Values set forth in Exhibit E-1 using the Payment Application form included therein.

### **2.1 Pre-construction costs billable at Contract Execution**

At Contract Execution, HONEYWELL will invoice CUSTOMER and CUSTOMER agrees to pay for the Technical Energy Audit fee (\$41,910), as well as the P&P Bonds (\$36,976) and Project Design (\$465,324) ESCO Project Service Fees in their entirety.

### **2.2 Construction period progress payments**

2.2.1 CUSTOMER will make monthly Progress Payments by ESM against HONEYWELL-approved invoices from subcontractors and materials suppliers during the construction period.

2.2.2 HONEYWELL shall apply CUSTOMER-approved, ESM-specific mark-ups for Service Fees and Overhead to each invoice amount per the Schedule of Values.

2.2.3 Each month, a retainage equal to 10% of the amount invoiced for each ESM for that period shall be calculated by HONEYWELL to be withheld from payment by CUSTOMER and to be released at Substantial Completion of each ESM (5%) and at Final Acceptance (5%).

### **2.3 Billing for retained amounts**

2.3.1 As each ESM has been accepted by CUSTOMER as substantially complete, HONEYWELL may include in its monthly invoice a request for the Substantial Completion retainage (equal to 5% of the total invoiced amount for that ESM) which has become due and payable to HONEYWELL.

2.3.2 At Final Acceptance of all of the ESMs by CUSTOMER, CUSTOMER shall make payment of the remaining 5% Final Acceptance retainage.

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## ATTACHMENT F PERFORMANCE GUARANTEES

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### 1. DEFINITIONS

When used in this Agreement, the following capitalized words shall have the meanings ascribed to them below:

**“Annual Guaranteed Savings Reconciliation Report” or “Annual Report”** is the annual report prepared by HONEYWELL for the CUSTOMER that analyzes savings realized for a Guarantee Year per the Measurement and Verification Plan to compare Measured Savings to Guaranteed Savings.

**“Baseline or Base Year”** is the description that defines the Baseline Usage and Unit Costs and facilities, systems, or equipment operations and characteristics, and environmental conditions that are to be used as the benchmark for determining energy savings. It may not always be one contiguous element of time and may be different from a 365-day annual period.

**“Baseline Period”** is the period of time (specified below) coordinated with the Baseline Usage for the purpose of utility bill analysis to allow the comparison of a Guarantee Year against a Baseline. The Baseline Period may not always be one contiguous element of time and may be different from a 365-day annual period. Baseline information from non-contiguous elements of time may be normalized and assigned to a specified Baseline Period.

**“Baseline Usage or Demand”** is the calculated or measured energy usage (demand) by a piece of equipment or a site prior to the implementation of the ESMs. Baseline physical conditions, such as equipment counts, nameplate data, and control strategies, will typically be determined through surveys, inspections, and/or metering at the site.

**“Construction Period”** The time period between the start of the project installation and the date of Final Project Acceptance.

**“Cost Avoidance”** means the difference between the actual cost incurred during a selected time period versus what the cost *would have been* had the cost avoidance strategy not been implemented, calculated using agreed upon energy unit costs stated in Section 6.3.

**“Covered Systems and Equipment”** as used in this Energy Guarantee means the systems and equipment identified in Honeywell’s Scope of Work.

**“Energy and Operational Cost Avoidance Guarantee Practices”** are those practices identified herein, intended to achieve avoided costs in energy and/or operating expenses.

**“Energy Auditing”** means the act of Measurement and Verification (M&V) to confirm the Guarantee Savings.

**“Energy Costs”** may include the cost of electricity and fuels to operate HVAC equipment, facility mechanical and lighting systems, and energy management systems, and the cost of water and sewer usage, as applicable.

**“ESM”** An Energy Savings Measure (ESM) (also referred to as an Energy Conservation Measure or ECM) is the installation of equipment or systems, or modification of equipment or systems as described in Attachment A, for the purpose of reducing utility (energy, water, etc.) consumption and demand and costs and/or non-utility (O&M, operational) costs.

**“Facilities”** shall mean those buildings where the energy and operational cost savings will be realized.

**“F.E.M.P.”** shall mean the Federal Energy Management Program of the U.S. Department of Energy and its Measurement and Verification Guidelines for Federal Energy Projects (DOE/GO-102000-0960, September 2000). The F.E.M.P. guidelines classify measurement & verification approaches as Option A, Option B, Option C, and Option D. The F.E.M.P. Guideline was developed based on the International Performance Measurement and Verification Protocol (I.P.M.V.P.). The focus of the F.E.M.P. M&V Guidelines is on choosing the M&V option and method most appropriate for specific projects.

**“Financing Document”** refers to that document executed between CUSTOMER and a third-party financing entity providing for payments from CUSTOMER to third-party financing entity.

**“Final Acceptance”** refers to CUSTOMER acceptance of the installation of all of the ESMs as defined in section 6.3.1 of the Agreement.

**“First Guarantee Year”** is defined as the period beginning on the first (1st) day of the month following the date of Final Project Acceptance of the Work installed and ending on the day prior to the first (1st) anniversary thereof.

**“Guarantee Period”** is defined as the period beginning on the first (1st) day of the First Guarantee Year and ending on the last day of the final Guarantee Year, also known as the "Measurement and Verification Phase" or "Performance Period". This is the specific time period over which HONEYWELL guarantees the savings and/or performance from the Work. The savings will be verified based on the Measurement and Verification procedures as outlined herein.

**“Guarantee Year”** is defined as the First Guarantee Year and each of the successive twelve (12) month periods commencing on the anniversary of the commencement of the First Guarantee Year throughout the Term of this Agreement.

**“Guaranteed Savings”** is defined as the energy use reduction that HONEYWELL is guaranteeing that the CUSTOMER will realize in each Guarantee Year as a result of the Work, the value to be determined based on the agreed upon unit price plus applicable escalation as set forth in Section 6. Guaranteed Savings may also include agreed upon reductions in annual Operational Costs, documented herein as agreed to by the Customer.

**“IGA”** is the Final Investment Grade Audit dated 07/27/2105 prepared by HONEYWELL and attached in its entirety to this Agreement as Schedule A.

**“I.P.M.V.P.”** International Performance Measurement and Verification Protocol (July 1997) provides an overview of current best practice techniques available for measurement & verification of performance contracts. This document is the basis for the F.E.M.P. protocol. The techniques are classified as Option A, Option B, Option C, and Option D.

**“Material Change”** is defined as changes in the following which reasonably could be expected to increase or decrease energy used at a Facility:

- (1) manner of use of the Facility by CUSTOMER;
- (2) hours of operation of the Facility or equipment or energy systems contained in the Facility;
- (3) occupancy of the Facility;
- (4) structure of the Facility;
- (5) types of equipment used in the Facility; or
- (6) conditions affecting energy use in the Facility.

**“Measured Savings”** are the actual verified annual savings in a Guarantee Year that result from the Work.

**“Measurement and Verification Plan”** (M&V Plan) is defined as the plan providing details on how the Guarantee Savings will be verified.

**“Operational Costs”** commonly referred to as O&M costs, shall include the cost of operating and maintaining the Facilities, such as, but not limited to, the cost of inside and outside labor to repair and maintain affected systems and equipment, the cost of custodial supplies, the cost of replacement parts, the cost of deferred maintenance, the cost of lamp and ballast disposal, and the cost of new capital equipment.

**“Option A”** is a verification approach that is designed for projects in which the potential to perform needs to be verified, but the actual on-going, year over year performance can be stipulated based on the results of the “potential to perform and generate Savings” verification and engineering calculations. Option A involves procedures for measured performance of the ECM based on pre/post retrofit data, and providing for ongoing verification that:

- Baseline conditions have been properly defined; and
- The equipment and/or systems that were contracted to be installed have been installed; and
- The installed equipment components or systems, *at the end of the construction period*, meet the specifications of the contract in terms of quantity, quality, and rating; and
- The installed equipment is operating and performing in accordance with the specifications referenced in this Agreement and meeting all functional tests.
- The “potential to perform and generate Savings” may involve pre-retrofit and post-retrofit measurements or

may be based on manufacturer and vendor data.

**“Option B”** is for projects in which the potential to perform and generate Savings needs to be verified; and actual performance needs to be measured (verified). Option B involves procedures for verifying the same items as Option A plus verifying actual performance of equipment component or system. Performance verification techniques involve engineering calculations with metering and monitoring for verifying that:

- The installed equipment components or systems, each year of the performance period, meet the specifications of the contract in terms of quantity, quality and rating, and operation and functional performance.

**“Option C”** is also for projects in which the potential to perform needs to be verified and actual performance during the term of the contract needs to be verified. Option C involves procedures for verifying the same items as Option A plus verifying achieved energy savings during the term of the contract using whole building utility meter analysis performance verification techniques.

**“Option D”** – NOT APPLICABLE.

**“Performance Phase or Period”** is also known as the "Guarantee Period" or "Measurement and Verification Period".

**“Retrofit”** is the Work provided by HONEYWELL as defined by the “ESMs.”

**“Savings”** is defined as avoided, defrayed, or reallocated costs.

**“Term”** shall have the meaning as defined in Section 2 hereof.

## **2. TERM AND TERMINATION**

**2.1 Guarantee Term.** The Term of this Guarantee Period shall commence on the first (1st) day of the month following the date of Final Acceptance of the Work installed pursuant to this Agreement and shall terminate at the end of the Guarantee Period unless terminated earlier as provided for herein. The Term of this Guarantee Period is 15 years

**2.2 Guarantee Termination.** Guaranteed Savings assume that systems and equipment are properly maintained throughout the Guarantee Term as detailed in the Customer Maintenance Responsibilities set forth in Attachment D and this Attachment F, and Operation and Maintenance Manuals (which include manufacturer’s recommendations) and training materials provided to CUSTOMER staff by HONEYWELL as part of the Substantial Completion process defined in this Agreement. CUSTOMER agrees that the savings guarantee set forth herein is dependent upon the performance of proper maintenance by the Customer or others employed by the Customer. CUSTOMER shall continue to contract with Honeywell for the Energy Auditing and Analysis Services (also referred to as Measurement & Verification Services) set forth in this Agreement for the entire term of the savings guarantee term. Should the Measurement & Verification Services Agreement be terminated in whole or in part for any reason prior to the end of the Term, the Guarantee for the Guarantee Year in which such termination becomes effective shall be prorated as of the effective date of such termination, with a reasonable adjustment for seasonal fluctuations in Energy and Operational Costs, and the Guarantee for all subsequent Guarantee Years shall be null and void.

## **3. SAVINGS GUARANTEE**

**3.1 Guaranteed Savings.** HONEYWELL guarantees to CUSTOMER that the identified Facilities will realize the annual Guaranteed Savings through the combined contribution of all ESMs in each and every Guarantee Year during the Guarantee Term. Energy Savings shall be identified in native energy units for each ESM (kWh, therms, gallons etc).

**3.1.1 Additional Savings Before Final Project Acceptance.** All energy and operational cost avoidance realized by CUSTOMER that result from activities undertaken by HONEYWELL prior to Final Project Acceptance shall be the property of the CUSTOMER. Any utility rebates or other incentives earned as a direct result of the Work by HONEYWELL will be the property of the CUSTOMER, to be used at the CUSTOMER’S discretion.

**3.1.2 Additional Savings After Final Project Acceptance.** Additional energy and/or operational cost savings beyond the savings guaranteed in this Agreement shall be documented as achieved savings in the Annual Guaranteed Savings Reconciliation Report for the applicable Guarantee Year

#### **3.1.4 RESERVED**

**3.1.5 Savings Shortfalls.** In the event that the Measured Savings in any Guarantee Year is less than the Guaranteed Savings for that Guarantee Year, HONEYWELL shall, compensate CUSTOMER the amount of any such shortfall, as determined in accordance with Section 6 below, within forty-five (45) days. Resulting compensation shall be HONEYWELL's sole liability for any shortfall in the Guaranteed Savings. In case of a shortfall, HONEYWELL may, at no cost to CUSTOMER and subject to CUSTOMER'S written authorization, correct deficiencies in the Work that it believes have created the shortfall and/or implement additional operational improvements or conservation measures that will generate additional savings in future Guarantee Years.

**3.2 Savings Documentation.** HONEYWELL shall provide CUSTOMER with an Annual Guaranteed Savings Reconciliation Report after each Guarantee Year that documents if Measured Savings equal or exceed Guaranteed Savings. That report shall be provided to CUSTOMER no later than 90 days after the end of the Guarantee Year it describes. In addition to the Annual Report, Honeywell will also provide, for the Building Management Systems Upgrade ESM only, quarterly operational review reports. These quarterly reports shall be made available within 45 days after the end of each quarter. Both reports are subject to the CUSTOMER fulfilling duties in the CUSTOMER RESPONSIBILITIES sections of Attachment D and F.

CUSTOMER will assist HONEYWELL in generating the Annual Report by providing HONEYWELL with access to all bills and other records pertaining to Energy Costs and energy use. CUSTOMER will also assist HONEYWELL by permitting access to available maintenance records, drawings, or other data deemed necessary by HONEYWELL to generate the said report. Data and calculations utilized by HONEYWELL in the preparation of its report shall be consistent with the measurement and verification methodologies and calculations set forth in this Agreement and shall be made available to CUSTOMER, along with such explanations and clarifications as CUSTOMER may reasonably request. Further, following submission of each Annual Report, HONEYWELL shall meet with CUSTOMER's representative/s to present the report and discuss findings and results.

**3.2.1 Acceptance of Guarantee Reconciliation.** After presentation of an Annual Report to CUSTOMER, CUSTOMER will have forty-five (45) days to review the Annual Report and provide written notice to HONEYWELL of non-acceptance of the Measured Savings for that Guarantee Year. Failure to provide written notice within forty-five (45) days of the presentation of the Annual Report will deem it accepted by CUSTOMER.

**3.2.2 Guarantee Savings Reconciliation.** Guarantee Savings will be determined in accordance with the methodology(s), operating parameters, formulas, and constants described in this Agreement.

#### **3.3 Savings Measurement.**

**3.3.1 Option A and / or B.** For ESMs being evaluated with M&V methods consistent with I.P.M.V.P. and/or F.E.M.P. Options A and/or B, HONEYWELL shall employ procedures which may be comprised of any or all of the following elements:

1. Pre-retrofit model of energy consumption or demand
2. Post retrofit measured energy consumption
3. Post-retrofit measured demand and time-of-use
4. Post-retrofit energy and demand charges
5. Sampling plan
6. Stipulated Values

The value of the energy savings will be derived from the measured data and engineering formulae included herein, and the applicable energy charges as defined herein. In some cases, energy usage and/or demand will be calculated from measured variables that directly relate to energy consumption, demand or cost, such as, but not limited to, measured flow, temperature, current, voltage, enthalpy or pressure.

**3.3.2 Option C.** For ESMs employing the M&V methods consistent with I.P.M.V.P. and/or F.E.M.P. Option C, HONEYWELL will use utility bill analysis as the basis for documenting Measured Savings.

For reconciliation of Guarantee Savings employing the method of utility bill analysis consistent with F.E.M.P.



Option C, energy usage for the Facilities for such Guarantee Year will be summarized and compared with the adjusted Baseline Period energy usage for the Facilities through the use of energy accounting software, such as Metrix or other CUSTOMER-approved software. The difference between the adjusted Baseline Period energy usage multiplied by the applicable energy rate as defined herein, and the Guarantee Year energy usage multiplied by the applicable energy rate, will be used to calculate the Energy Cost savings. A Baseline will be specified (Section 1 of the Schedule of Savings) for the purpose of utility bill analysis.

### **3.4 RESERVED**

**3.5 Base Year Adjustments.** Baseline Period shall be adjusted to reflect: changes in occupied square footage; changes in energy-consuming equipment, including any repairs or improvements made to the equipment as part of this Agreement; changes in the Facilities; changes in Energy and Operational Cost Avoidance Guarantee Practices adversely affecting energy consumption and/or demonstrated operational changes; changes in weather between the Baseline Period and the Guarantee Year; and documented or otherwise conclusively established metering errors for the Baseline Period and/or any Guarantee Year adversely affecting energy usage measurement. Base Year Adjustments shall be documented in the Annual Reconciliation Report for Customer's review and approval, such approval not to be unreasonably withheld.

**3.5.1 Facility Operational Changes.** Except in the case of emergencies, CUSTOMER agrees it will notify the HONEYWELL'S designated representative if CUSTOMER institutes any of the following operational changes: makes significant deviations from the agreed to Energy and Operational Cost Avoidance Guarantee Practices; puts any system or item of equipment in a permanent "on" position, if this would constitute a deviation from the applicable Energy and Operational Cost Avoidance Guarantee Practices; assumes manual control of any energy management system or item of equipment, if the same would constitute a deviation from the applicable Energy and Operational Cost Avoidance Guarantee Practices. HONEYWELL will document such changes and any savings adjustments needed to account for such changes in the Annual Guaranteed Savings Reconciliation Report for Customer's review and approval.

**3.5.2 Hours and Practices.** To achieve these energy savings, HONEYWELL and CUSTOMER agree upon the operating practices specified in this Agreement.

**3.5.3 Activities and Events Adversely Impacting Savings.** CUSTOMER shall notify HONEYWELL within fifteen (15) business days of occurrence of any significant changes to a Facility that could adversely impact HONEYWELL's ability to achieve Guaranteed Savings. Honeywell shall document the impact of such events including calculations to support any adjustment in the Annual Guaranteed Savings Reconciliation Report for Customer's review and approval. Further, if for any reason any facility and/or utility meter covered under this Agreement is materially unoccupied, closed, or discontinued, the CUSTOMER shall notify HONEYWELL within fifteen (15) business days of this change. The savings will be deemed realized for such facilities or meters and the Guarantee will be adjusted accordingly. HONEYWELL will provide written notice of such adjustment to the CUSTOMER.

**3.6 Guarantee Adjustment.** HONEYWELL's Guaranteed Savings under this Agreement are contingent upon: (1) CUSTOMER following the Energy and Operational Cost Avoidance Guarantee Practices set forth herein; (2) no alterations or additions being made by CUSTOMER to any of the Covered Systems and Equipment without written notice to HONEYWELL; (3) CUSTOMER sending all current utility bills to HONEYWELL in accordance with Attachment D, and (4) HONEYWELL's ability to render services not being impaired by circumstances beyond its control. In the event CUSTOMER fails to send all utility bills to HONEYWELL in accordance with Attachment D, HONEYWELL may deem the impacted portion of the Guarantee Savings obligation met during that period and any successive periods. A sample of a typical steam trap leak survey report template is attached hereto as Exhibit 2. In the event the CUSTOMER fails to provide an annual steam trap leak survey report, for the Option C buildings using steam, HONEYWELL shall include a baseline adjustment in the Annual Report to account for steam trap leakage. The adjustment may be determined to be base on an assumed failure rate of up to 25% per year. To the extent CUSTOMER defaults in or fails to perform fully any of its obligations under this Agreement, HONEYWELL may propose to adjust its Guaranteed Savings obligation; provided, however, that no proposed adjustment hereunder shall be actionable unless HONEYWELL has first provided CUSTOMER with written notice of CUSTOMER's default(s) or failure(s) to perform and CUSTOMER has failed to cure its default(s) or failure(s) to perform within forty (40) business days after the date of such notice. In the event the Guaranteed Savings are adjusted and savings from an ESM or ESMs are deemed achieved, Honeywell shall equitably reduce the scope and price of the Measurement and Verification Services for subsequent periods to reflect the reduction in Guaranteed Savings obligation.

#### **4. RESERVED**

#### **5. CUSTOMER RESPONSIBILITIES**

**5.1 Equipment Subject to these Provisions.** Customer shall be responsible for proper operation and maintenance of systems and equipment affecting the performance of the Energy Savings Guarantee : (1) new equipment installed by HONEYWELL as per Attachment A, (2) existing equipment modified by HONEYWELL per Attachment A, (3) existing or new equipment not installed or modified by HONEYWELL under this Agreement but materially controlled or affected by the Work provided per Attachment A and consuming energy or water via utility meters covered by this Agreement.

**5.1.1 Equipment Operation, Maintenance, and Repair.** During the term of this Agreement, CUSTOMER shall perform on-going maintenance and equipment repairs on Covered Systems and Equipment in accordance with manufacturer's recommended schedules, standards, and practices and, further, take all reasonable steps to insure the equipment is operating as designed and intended by the parties, per Attachment A. Necessary component replacement and equipment repairs shall be completed in a timely fashion. CUSTOMER shall operate and maintain Covered Systems and Equipment in accordance with applicable manufacturer's specifications, agreed to schedules, sequence of operations, and system set points and the requirements set forth herein, CUSTOMER shall keep maintenance logs and make them available to HONEYWELL upon request. Failure of the CUSTOMER to operate the equipment as agreed to herein, repair any deficiencies in a timely manner, and perform ongoing maintenance functions in accordance with manufacturers specifications may give HONEYWELL cause to propose adjustments to Guaranteed Savings.

CUSTOMER shall replace any vandalized or failed Covered Systems and Equipment no longer warrantied by HONEYWELL or the manufacturer with like equipment with equal or greater efficiency performance for the full Guarantee Term. CUSTOMER shall investigate and correct reported deficiencies with respect to Covered Systems and Equipment that would adversely affect Guaranteed Savings.

**5.1. Access for Remote Diagnostics.** CUSTOMER shall allow HONEYWELL to perform remote diagnostics on all equipment associated with the Energy Savings Guarantee for operational compliance with the manufacturer's specifications, and the requirements contained herein. CUSTOMER will provide access described in section 5.3.1, as applicable.

**5.1.1. TCP/IP Remote Access:** CUSTOMER shall provide HONEYWELL remote access, at no cost to HONEYWELL, through CUSTOMER's firewall(s) to the controllers and front-end computer(s) including but not limited to a dedicated static IP address, VPN access, installation and on-going maintenance and subscription and licensing fees for access hardware and software and one (1) station license dedicated to the remote user. The access shall include inbound access for system inspection and outbound access for automatic export of data to a trend database residing on a Honeywell server network.

**5.2. Reporting.** For all buildings which include an ESM for which Option C methodology shall be used, CUSTOMER shall notify HONEYWELL in writing within fifteen (15) business days of the following changes or events.

- (1) any additional energy source or change in existing energy source or supplier that the CUSTOMER may negotiate during the term of this Guarantee and/or,
- (2) material changes in system or equipment status, including replacement of, addition to, or modification of existing energy and/or water consuming systems or equipment and/or,
- (3) long term temporary (equal to or greater than 10 days) or permanent changes in operating schedules and/or,
- (4) facility and/or utility meter covered under this Agreement that becomes materially unoccupied, closed, or discontinued.

**5.3. Governmental Unit Reporting.** CUSTOMER is solely responsible for reports to be submitted to the any governmental agency or governmental unit.

**5.4. Utility Rebates.** Any energy rebates and/or refunds received by CUSTOMER as a result of the Work are the result of an agreement between CUSTOMER and the utility company and are not included in HONEYWELL'S Guaranteed Savings. However, HONEYWELL shall complete rebate applications for the CUSTOMER providing necessary documentation in the form of calculations, design documents, and like materials as required for rebate applications, submit those applications on CUSTOMER'S behalf, and assist CUSTOMER in discussions and negotiations with the utility required to secure approval of rebate applications.

## 5.5. Material Changes in Facilities

**5.5.1** CUSTOMER shall notify HONEYWELL in writing of Material Changes in the Facilities or in the operations of the Facilities that could significantly affect energy use. Said Notice must be delivered to HONEYWELL no more than fifteen (15) business days after any proposed Material Change occurs.

**5.5.2** If energy consumption and demand per utility meter or submeter for any month increases by five percent (5%) or more of the Guaranteed Savings per meter from the energy consumption and demand for the same month of the *preceding* contract year after adjustment for changes to climactic conditions, then such increase shall be deemed to have resulted from a Material Change, except where such increase is due to equipment malfunction, faulty repair or other acts of negligence by HONEYWELL.

**5.5.3 Adjustments for Material Changes.** In the event of any increase or decrease in energy consumption and demand for any month resulting from a reported or unreported Material Change, the amount of that increase shall be noted in the annual reconciliation report and addressed according to the provisions herein.

## 6. SCHEDULE OF GUARANTEED SAVINGS

During the Guarantee Period, to compare annual Measured Savings to Guaranteed Savings to determine if Guaranteed Savings have been achieved, HONEYWELL shall convert energy savings from the native units to MMBtus as the single combined energy measure and use gallons as the water avoidance guarantee amount for all ESMs. Guaranteed Savings are presented in the table below and the Operational Cost Savings exhibit in section 6.4, and subject to Attachment D.

Att A	ESM Description	Electric	Gas*	Fuel Oil	Guarantee	Water –
No.		kWh	Therms	Gallons	MMBtu**	kGallons
1	Lighting and Lighting Controls (LED)	1,162,156	-6,182	-53	3,341	0
2	Street Lighting Upgrades	1,303,448	0	0	4,449	0
3	Boiler Replacements & Pump Upgrades	-3,302	13,468	403	1,391	0
4	Replace Multi-Zone AHU & Cooling System	23,664	0	478	147	0
5	Building Management System Upgrades	6,689	82,514	1,402	8,468	0
6	Building Envelope Improvements	9,770	28,477	202	2,909	0
7	Water Conservation	7,444	1,111	22	140	1,701
8	Walk-In Cooler/Freezer Controls	2,948	0	0	10	0
9	Desktop Computer Power Management	113,022	0	0	386	0
10	Computer Peripheral Power Management	20,752	0	0	71	0
11	Plug Load Power Management	7,608	0	0	26	0
12	Pipe Insulation	0	16,625	0	1,662	0
<b>Total</b>		2,654,198	136,013	2,454	23,000	1,701

\* At dual-fuel buildings, natural gas is assumed to be the primary and preferred fuel burned. Fuel savings at those buildings will be recorded as natural gas savings. Adult Day Care building uses oil only as fuel, therefore its fuel savings will be recorded as oil savings.

\*\* Calculate @ 3,413 Btu/kWh, 100,000 Btu/Therm, 138,500 Btu/Gal oil

**6.1 Measuring Water Savings:** For performance period, record pre retrofit minus post retrofit flow rates per fixture type based on sample population measured data and the agreed upon variables, as defined in the M&V plan. If actual water avoidance is greater or equal to guaranteed water avoidance, the guarantee has been satisfied. Otherwise a shortfall has occurred. The actual avoidance will be monetized by multiplying the relevant water gallon by the applicable utility, subject to conditions in section 6.3. In case of a shortfall, the shortfall amount will be the difference between the actual total monetized avoidance and the monetized guarantee target.

**6.2 Measuring MMBtu Savings.** For each Guarantee Year, HONEYWELL shall perform below calculation to determine MMBtu and dollar value savings guarantee performance.

Step 1: Determine Energy Savings performance:

Annual Energy Savings performance will be calculated as a percent (%), determined by dividing annual Guaranteed Savings by annual Measured Savings (i.e.  $B \div A$ ), where,

A = Guaranteed Savings (i.e., the target utility unit avoidance converted to MMBtus): 23,000 MMBtu

B = Measured Savings (i.e., actual utility unit avoidance in MMBtus adjusted to billing date and normalized and/or adjusted in accordance with the terms of this Agreement and Schedule A, etc., as applicable)

#### Step 2: Monetize Energy Savings Performance

Energy Savings performance will be monetized by multiplying the Energy Savings performance percentage calculated in Step 1 times the equivalent dollar value of the Guaranteed Savings in MMBtus (equal to the sum of each native utility rate x each utility energy units), where,

C = Equivalent dollar value of the Guaranteed Savings in MMBtus (Sum of each native utility rate x each utility energy units)

D = Monetized achieved savings = Performance % (calculated in Step 1) x C

Step 3: Determine shortfall payouts, if any: If D is negative, shortfall payout =  $C - D$

If D is positive, savings target is met and reported as achieved savings dollar value.

**6.3 Determination of Applicable Energy and Water Rates.** CUSTOMER and HONEYWELL agree that the Baseline unit costs of energy will be escalated by 2.5% each year to the first Guarantee Year, and, further, that the unit cost of energy used for reconciliations will be reviewed and adjusted each Guarantee Year of the Guarantee Period using the following methodology.

For each Guarantee Year, the achieved energy cost avoidance or monetized payout amount in the case of an energy unit shortfall will be calculated using the escalated baseline utility rate for that Guarantee Year or actual average utility rate paid by CUSTOMER for that Guarantee Year, whichever is lower. CUSTOMER and HONEYWELL agree that the annual escalation adjustment will be 2.5% per year.

The baseline unit cost of energy used determining the Year 1 monetized value of the energy avoidance is as presented in the table below;

Base year energy unit cost (total cost for all buildings divided by total units for all buildings)

Utility Type	Utility Unit Cost/Unit
Electricity	\$0.159/kWh
Natural Gas	\$1.437/Therm
Fuel Oil	\$3.144/Gallon
Water/Sewer	\$11.204/per kGallon

Annual Utility Rate Escalation Table (using 2.5% escalation)

Year	Electric \$/kWh	Gas \$/Therm	Fuel Oil \$/Gal	Water/Sewer \$/kGal
2012	\$ 0.159	\$ 1.44	\$ 3.14	\$ 11.20
2013	\$ 0.163	\$ 1.473	\$ 3.223	\$ 11.484
2014	\$ 0.167	\$ 1.510	\$ 3.303	\$ 11.771
2015	\$ 0.171	\$ 1.547	\$ 3.386	\$ 12.065
2016	\$ 0.176	\$ 1.586	\$ 3.470	\$ 12.367
2017 (Guarantee Year 1)	\$ 0.180	\$ 1.626	\$ 3.557	\$ 12.676
2018 (Guarantee Year 2)	\$ 0.184	\$ 1.666	\$ 3.646	\$ 12.993
2019 (Guarantee Year 3)	\$ 0.189	\$ 1.708	\$ 3.737	\$ 13.318
2020 (Guarantee Year 4)	\$ 0.194	\$ 1.751	\$ 3.831	\$ 13.651
2021 (Guarantee Year 5)	\$ 0.199	\$ 1.795	\$ 3.926	\$ 13.992
2022 (Guarantee Year 6)	\$ 0.204	\$ 1.839	\$ 4.025	\$ 14.342
2023 (Guarantee Year 7)	\$ 0.209	\$ 1.885	\$ 4.125	\$ 14.701
2024 (Guarantee Year 8)	\$ 0.214	\$ 1.933	\$ 4.228	\$ 15.068
2025 (Guarantee Year 9)	\$ 0.219	\$ 1.981	\$ 4.334	\$ 15.445
2026 (Guarantee Year 10)	\$ 0.225	\$ 2.030	\$ 4.442	\$ 15.831
2027 (Guarantee Year 11)	\$ 0.230	\$ 2.081	\$ 4.553	\$ 16.227
2028 (Guarantee Year 12)	\$ 0.236	\$ 2.133	\$ 4.667	\$ 16.632
2029 (Guarantee Year 13)	\$ 0.242	\$ 2.187	\$ 4.784	\$ 17.048
2030 (Guarantee Year 14)	\$ 0.248	\$ 2.241	\$ 4.904	\$ 17.474
2031 (Guarantee Year 15)	\$ 0.254	\$ 2.297	\$ 5.026	\$ 17.911
2032 (Guarantee Year 16)	\$ 0.261	\$ 2.355	\$ 5.152	\$ 18.359
2033 (Guarantee Year 17)	\$ 0.267	\$ 2.414	\$ 5.281	\$ 18.818
2034 (Guarantee Year 18)	\$ 0.274	\$ 2.474	\$ 5.413	\$ 19.288
2035 (Guarantee Year 19)	\$ 0.281	\$ 2.536	\$ 5.548	\$ 19.771
2036 (Guarantee Year 20)	\$ 0.288	\$ 2.599	\$ 5.687	\$ 20.265

**6.4 Operational Cost Savings.** The annual guarantee of operational cost avoidance strategies are listed below. The Savings are based on the practices contained in Section 6.5 below and in the IGA Report. The operational cost savings described below and identified in this Section 6 are deemed satisfied upon contract execution. The Customer acknowledges and agrees that, if it did not enter into this agreement, it would have to take future steps to achieve the same ends as does the work included in Attachment A of this contract, and that, in doing so, it would incur operational costs of at least the amount per year over the life of the performance period as presented below and in the Schedule of Savings. The Customer agrees that, by entering into this agreement, it will avoid future operational costs in at least these amounts.

The operational cost avoidance values were identified, reviewed, and agreed to by a team of Customer's representative.

OSD #	Operational Savings Description (OSD)	ESM #	Cost Avoidance Category (O&M)	1 <sup>st</sup> Year Cost Avoidance
1	Lighting and Lighting Controls (LED)	1	\$ 11,962	\$ 11,962
2	Street Lighting Upgrades	2	\$ 69,751	\$ 69,751
3	Boiler Replacements & Pump Upgrades	3	\$ 13,925	\$ 13,925
4	Replace Multi-Zone AHU & Cooling System	4	\$ 12,680	\$ 12,680
5	Building Management System Upgrades	5	\$ 9,315	\$ 9,315
6	Building Envelope Improvements	6	\$ 0	\$ 0
7	Water Conservation	7	\$ 1,152	\$ 1,152
8	Walk-In Cooler/Freezer Controls	8	\$ 0	\$ 0
9	Desktop Computer Power Management	9	\$ 0	\$ 0
10	Computer Peripheral Power Management	10	\$ 0	\$ 0
11	Plug Load Power Management	11	\$ 0	\$ 0
12	Pipe Insulation	12	\$ 0	\$ 0
	Total		\$ 118,786	\$ 118,786

[a] O&M: operations and maintenance.

## 6.5 Energy and Operational Cost Avoidance Guarantee Practices:

**6.5.1 BASELINE Operating Parameters** are stated in the IGA Report and shall be used in the calculation of the baseline energy consumption and/or demand and for calculating baseline adjustments for changes in facility operation that occur during the Guarantee Period. HONEYWELL and CUSTOMER agree that the operating parameters specified in this section are representative of equipment operating characteristics during the Baseline Period specified in this Agreement.

The Baseline Period is defined in the IGA Report

The Contractual Baseline consists of the Baseline Conditions and Baseline Operating Parameters collected from the Baseline Period and modified by Baseline Adjustments, as necessary, as defined herein and by the IGA report.

Routine and non-routine future post-retrofit baseline adjustments are discussed in other sections, and will be consistent with IPMVP recommendations and standard practices. All baseline adjustments will be presented in the reconciliation document for customer review.

**6.5.2 GUARANTEE PERIOD Operating Parameters** of the facility(s) and system(s) are set forth in the IGA Report.

**6.6 Guarantee Savings Measurement and Verification Plan.** Measurement and Verification Plan is set forth in the IGA Report.

**6.7 Avoided Energy Costs**

Energy cost avoidance may also include, but is not limited to, Savings from demand charges, power factor correction, taxes, ratchet charges, rate changes and other utility tariff charges that are reduced as a result of the HONEYWELL involvement. The Baseline utility rate structures are defined in IGA report. Electrical energy costs are based on average electrical energy charges of all buildings. Consumption and demand costs will be blended into one rate. Fuel prices are based on average prices for all buildings for the baseline year. Energy rates are escalated during future years as described in Section 6.3.

**6.8 Constants:** The constants and/or stipulated values defined in the Exhibits to the IGA report, or as defined herein are mutually agreed to by the Customer to be reasonable and may be used in the determination of the cost avoidance.

## **ATTACHMENT J**

### **PROJECT ACCEPTANCE PROCEDURE**

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#### **Substantial Completion**

As the Work specific to individual ESMs nears Substantial Completion, the Honeywell Project Manager will start the ESM close-out process. The Honeywell Project Manager shall use the Scope-of-Work (SOW) in Attachment A and Schedule A, the Investment Grade Energy Audit, as the basis for the close-out process and shall demonstrate to the Customer's Representative that each separate item of the SOW for individual ESMs has been completed. Substantial Completion is defined in section 6.2 of the Agreement.

The sign off process will be by individual Energy Savings Measure (ESM) as listed in Attachment A. After each portion of the Scope of Work has been demonstrated and a "Punch List" detailing minor deficiencies, if any, is generated, the Customer's Representative shall execute the Delivery and Acceptance Certificate to acknowledge Substantial Completion and Honeywell will complete the "Punch List" within two weeks. Warranty shall start in accordance with the terms of the Agreement.

Support Services: Honeywell will start the M&V services in accordance with Attachment D when the Final Delivery and Acceptance Certificate is signed, with the exception of certain pre-construction measurements of pre-retrofit conditions which shall occur prior to commencement of the installation work.

## DELIVERY AND ACCEPTANCE CERTIFICATE SUBSTANTIAL COMPLETION

Project Name: \_\_\_\_\_

Agreement Effective Date: \_\_\_\_\_

Building/Site/Equipment Unit or individual Energy Conservation Measure (ESM): \_\_\_\_\_

To: Honeywell International Inc.

Reference is made to the above listed Agreement between the undersigned and Honeywell International Inc. and to the Scope of Work as defined in Attachment A herein. In connection therewith, we confirm to you the following:

1. The Individual Energy Savings Measure (ESM) referenced above and also listed in Attachment A of the Agreement has been demonstrated to the satisfaction of the Customer's Representative as being substantially complete.
2. The Punch List [circle which applies]:
  - (a) has been developed by the parties and delivered to Honeywell and the deficiencies noted therein will be corrected within 2 weeks of the date hereon; or
  - (b) has not been developed by the parties and delivered to Honeywell but will be developed and delivered on or before \_\_\_\_\_, 201\_ after which the deficiencies noted therein will be corrected within 2 weeks of the date thereon.
3. All of the Work has been delivered to and received by the undersigned and that said Work has been examined and /or tested and is in good operating order and condition and is in all respects satisfactory to the undersigned and as represented, and that said Work has been accepted by the undersigned and complies with all terms of the Agreement. Consequently, you are hereby authorized to invoice for payment and release of 5% retainage, as defined in Attachment E, Payment Schedule.

Customer Name: \_\_\_\_\_

By: _____	_____
(Authorized Signature)	(Authorized Signature)
_____	_____
(Printed Name and Title)	(Printed Name and Title)
_____	_____
(Date)	(Date)



## FINAL PROJECT ACCEPTANCE CERTIFICATE

Project Name: \_\_\_\_\_

Agreement Effective Date: \_\_\_\_\_

Scope-of-Work (SOW): \_\_\_\_\_

To: Honeywell International Inc.

Reference is made to the above listed Agreement between the undersigned and Honeywell International Inc. and to the Scope of Work as defined in Attachment A herein. In connection therewith, we confirm to you the following:

1. The entirety of the Scope of Work (SOW) referenced above and set forth in Attachment A of the Agreement has been demonstrated to the satisfaction of the Customer's Representative as being accepted as is evidenced by Customer's signature on Delivery and Acceptance Substantial Completion Certificates for the entirety of the Work.
2. The Punch List(s) has been completed.
3. You are hereby authorized to invoice for Final Payment including the remaining retainage, as defined in Attachment E, Payment Schedule.

Customer Name: \_\_\_\_\_

By: \_\_\_\_\_  
(Authorized Signature)

\_\_\_\_\_  
(Printed Name and Title)

\_\_\_\_\_  
(Date)

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**EXHIBIT 1**  
**APPROVED HONEYWELL SUBCONTRACTORS**

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The following Honeywell subcontractors have been pre-approved and authorized by Customer for employment on this project:

- PowerSecure Inc.
- McKenney Mechanical
- SNE Inc.
- Water Management, Inc.

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EXHIBIT 2 Steam Trap Survey Template - Town of Enfield Project

Building	Floor	Location	Steam Trap Installed			Type	Mfg	Model	Equipment	Annual Maintenance Information				
			Tag	Qty	Size					Test Method	Test Results	Action Required	Action Taken	Date
Enfield St. School	0	boiler room	2	1	1.25	FT	BJ	T43	DRIP					
Enfield St. School	0	boiler room	1	1	1	FT	MPCo	2015-4	DRIP					
Enfield St. School	0	boiler room	3	1	0.75	FT	HO	2015-3	DRIP					
Enfield St. School	0	boiler room	4	1	1	FT	BJ	T42	DRIP					
Enfield St. School	0	boiler room	5	1	1	FT	SO	2015-4	DRIP					
Enfield St. School	-1	lower boiler room crawl	8	1	1	FT	SO	2015-4	DRIP					
Enfield St. School	-1	lower boiler room crawl	9	1	1	FT	SO	2015-4	DRIP					
Enfield St. School	-1	lower boiler room crawl	10	1	0.75	FT	SO	2015-3	DRIP					
Enfield St. School	-1	lower boiler room crawl		4	0.5	T-A	SO	5007	DRIP					
Enfield St. School	-1	lower boiler room crawl		3	0.5	T-A	SO	5007	DRIP					
Enfield St. School	-1	lower boiler room crawl		3	0.75	FT	SO	2015-3	DRIP					
Enfield St. School	2	attic	11	2	1.5	FT	WW	2015-6	AHU					
Enfield St. School	0	supply room	12	1	1	FT	SO	2015-4	DRIP					
Enfield St. School	0	supply room	13	1	1.5	FT	SO	2015-6	HEX					
Enfield St. School	-1	supply room crawl space		3	0.75	FT	SO	2015-3	DRIP					
Enfield St. School	-1	supply room crawl space		4	0.5	T-A	SO	5007	DRIP					
Enfield St. School	1	17		1	0.5	T-A	0	1972	RAD					
Enfield St. School	1	21		1	0.5	T-A	0	1972	RAD					
Enfield St. School	1	16		1	0.5	T-A	0	1972	RAD					
Enfield St. School	1	20		1	0.5	T-A	0	1972	RAD					
Enfield St. School	1	boys at 20		1	0.5	T-A	WW	1972	RAD					
Enfield St. School	1	girls at 20		1	0.5	T-A	WW	1972	RAD					
Enfield St. School	1	15		1	0.5	T-A	0	1972	RAD					
Enfield St. School	1	19		1	0.5	T-A	0	1972	RAD					
Enfield St. School	1	18		1	0.5	T-A	0	1972	RAD					
Enfield St. School	1	14		1	0.5	T-A	0	1972	RAD					

EXHIBIT 2 Steam Trap Survey Template - Town of Enfield Project

Building	Floor	Location	Steam Trap Installed			Type	Mfg	Model	Equipment	Annual Maintenance Information				
			Tag	Qty	Size					Test Method	Test Results	Action Required	Action Taken	Date
Enfield St. School	1	janitor		1	0.5	T-A	SO	5007	RAD					
Enfield St. School	1	entrance at br		1	0.5	T-A	SO	5007	RAD					
Enfield St. School	1	hall caf		1	0.5	T-A	SO	5007	RAD					
Enfield St. School	1	hall at 21		1	0.5	T-A	SO	5007	RAD					
Enfield St. School	1	4		1	0.5	T-A	0	1972	RAD					
Enfield St. School	1	4		1	0.5	T-A	WW	1972	RAD					
Enfield St. School	1	5		1	0.5	T-A	0	1972	RAD					
Enfield St. School	1	5		1	0.5	T-A	WW	1972	RAD					
Enfield St. School	1	9		1	0.5	T-A	0	1972	RAD					
Enfield St. School	1	9		1	0.5	T-A	WW	1972	RAD					
Enfield St. School	1	10		1	0.5	T-A	0	1972	RAD					
Enfield St. School	1	10		1	0.5	T-A	WW	1972	RAD					
Enfield St. School	1	conference room 1		2	0.5	T-A	BJ	1721	RAD					
Enfield St. School	1	main entrance		2	0.5	T-A	HO	3500	RAD					
Enfield St. School	1	office		1	0.5	T-A	SO	5007	RAD					
Enfield St. School	1	office		1	0.5	T-A	SO	5007	RAD					
Enfield St. School	1	principal		2	0.5	T-A	SO	5007	RAD					
Enfield St. School	1	nurse		1	0.5	T-A	SO	5007	RAD					
Enfield St. School	1	3		1	0.5	T-A	0	1972	RAD					
Enfield St. School	1	3		1	0.5	T-A	WW	1972	RAD					
Enfield St. School	1	3 entrance		1	0.5	T-A	HO	3500	RAD					
Enfield St. School	1	2		1	0.5	T-A	0	1972	RAD					
Enfield St. School	1	2		1	0.5	T-A	WW	1972	RAD					
Enfield St. School	1	1		1	0.5	T-A	0	1972	RAD					
Enfield St. School	1	1		1	0.5	T-A	WW	1972	RAD					
Hazardville School	1	mr outside entrance	1	1	0.75	FT	SO	2015-3	DRIP					

EXHIBIT 2 Steam Trap Survey Template - Town of Enfield Project

Building	Floor	Location	Steam Trap Installed			Type	Mfg	Model	Equipment	Annual Maintenance Information				Comments
			Tag	Qty	Size					Test Method	Test Results	Action Required	Action Taken	Date
Hazardville School	1	mr outside entrance	2	1	1	FT	SO	2015-4	HEX					
Hazardville School	1	mr new wing	3	1	0.75	FT	SO	2015-3	DRIP					
Hazardville School	1	mr new wing	4	1	1	FT	WM	2015-4	HEX					
Hazardville School	0	boiler room	5	1	1.25	FT	SO	2015-5	DRIP					
Hazardville School	0	boiler room	6	1	1.25	FT	SO	2015-5	DRIP					
Hazardville School	0	boiler room	7	1	1.25	FT	SO	2015-5	DHWT					
Hazardville School	0	boiler room	8	1	0.75	FT	SO	2015-3	DRIP					
Hazardville School	0	boiler room tunnel 1		10	0.5	T-A	SO	5000	RAD					permit confined space- qty est'd
Hazardville School	0	boiler room tunnel 2		1	0.5	T-S	SO	5000	RAD					permit confined space- qty est'd
Hazardville School	0	boiler room tunnel 2		5	0.5	T-A	SO	5000	RAD					permit confined space- qty est'd
Hazardville School	0	boiler room tunnel 3		5	0.5	T-A	SO	5000	RAD					permit confined space- qty est'd
Hazardville School	0	boiler room tunnel 3		0	0.5	T-S	SO	5000	RAD					permit confined space- qty est'd
Hazardville School	0	boiler room tunnel 2		3	0.75	FT	SO	2015-3	DRIP					permit confined space- qty est'd
Hazardville School	0	boiler room tunnel 1		3	0.75	FT	SO	2015-3	DRIP					permit confined space- qty est'd
Hazardville School	0	boiler room tunnel 3		1	1	FT	0	2015-4	DRIP					permit confined space- qty est'd
Hazardville School	1	kitchen	9	1	0.75	FT	WW	2015-3	HUH					
Hazardville School	0	kitchen tunnel 1												
Hazardville School	0	kitchen tunnel 1	10	1	0.75	FT	WM	2015-3	DRIP					
Hazardville School	0	kitchen tunnel 1		6	0.5	T-A	SO	5000	RAD					
Hazardville School	0	kitchen tunnel 2	11	1	0.75	FT	SO	2015-3	DRIP					
Hazardville School	0	kitchen tunnel 2		6	0.5	T-A	SO	5000	RAD					
Hazardville School	0	kitchen tunnel 2		2	0.75	FT	SO	2015-3	DRIP					
Hazardville School	0	kitchen tunnel 1	10	4	0.75	FT	WM	2015-3	DRIP					
Hazardville School	1	10		3	0.5	T-S	SO	5000	RAD					
Hazardville School	1	8		3	0.5	T-S	SO	5000	RAD					
Hazardville School	1	7		3	0.5	T-S	SO	5000	RAD					

EXHIBIT 2 Steam Trap Survey Template - Town of Enfield Project

Building	Floor	Location	Steam Trap Installed			Type	Mfg	Model	Equipment	Annual Maintenance Information				
			Tag	Qty	Size					Test Method	Test Results	Action Required	Action Taken	Date
Hazardville School	1	girls gym		1	0.5	T-S	SO	5000	RAD					
Hazardville School	1	boys gym		1	0.5	T-S	SO	5000	RAD					
Hazardville School	1	9		3	0.5	T-S	SO	5000	RAD					
Hazardville School	1	9 exit		1	0.5	T-S	SO	5000	RAD					
Hazardville School	1	11		3	0.5	T-S	SO	5000	RAD					
Hazardville School	1	12		3	0.5	T-S	SO	5000	RAD					
Hazardville School	1	boys at 13		1	0.5	T-A	SO	5000	RAD					
Hazardville School	1	girls at 13		1	0.5	T-A	SO	5000	RAD					
Hazardville School	1	13 to 20		6	0.75	FT	SO	2015-3	RAD					
Hazardville School	1	13 to 20		8	0.5	T-S	SO	5000	RAD					
Hazardville School	1	13 exit		1	0.5	T-S	SO	5000	RAD					
Hazardville School	0	room 15 hatch		1	1.25	FT	SO	2015-5	DRIP					
Hazardville School	1	hall at gym		1	0.5	T-S	SO	5000	RAD					
Hazardville School	1	gym		4	0.5	T-S	SO	5000	RAD					
Hazardville School	1	stage		1	0.5	T-S	SO	5000	RAD					
Hazardville School	1	gym		3	0.5	T-S	SO	5000	UV					
Hazardville School	1	office   nurse		4	0.5	T-S	SO	5000	RAD					
Hazardville School	1	speech		1	0.5	T-S	SO	5000	RAD					
Hazardville School	1	teachers		1	0.5	T-S	SO	5000	RAD					
Hazardville School	1	1 exit		2	0.5	T-S	SO	5000	RAD					
Hazardville School	1	1b		2	0.5	T-S	SO	5000	RAD					
Hazardville School	1	1b		3	0.75	T-S	SO	5000	RAD					
Hazardville School	1	16 exit		2	0.5	T-S	SO	5000	RAD					
Hazardville School	1	20 exit		1	0.5	T-S	SO	5000	RAD					
Hazardville School	1	1a		0	0.5	T-S	SO	5000	RAD					
Hazardville School	1	1a		4	0.75	T-S	SO	5000	RAD					



EXHIBIT 2 Steam Trap Survey Template - Town of Enfield Project

Building	Floor	Location	Steam Trap Installed			Type	Mfg	Model	Equipment	Annual Maintenance Information			
			Tag	Qty	Size					Test Method	Test Results	Action Required	Action Taken
Hazardville School	1	1		1	0.5	T-S	SO	5000	RAD				
Hazardville School	1	1		3	0.75	T-S	SO	5000	RAD				
Hazardville School	1	hall at 1		1	0.5	T-S	SO	5000	RAD				
Hazardville School	1	speech at 1		1	0.5	T-S	SO	5000	RAD				
Hazardville School	1	38415		3	0.75	FT	SO	2015-3	RAD				
Hazardville School	1	hall at caf		1	0.5	T-S	SO	5000	RAD				
Hazardville School	1	cafeteria		3	0.5	T-S	SO	5000	RAD				
Thomas Alcorn School	0	112		1	1	FT	BJ	2015-4	DRIP				
Thomas Alcorn School	0	112		1	0.75	T-A	BJ	1929	RAD				
Thomas Alcorn School	-1	boiler room	1	1	0.75	FT	BJ	2015-3	DRIP				
Thomas Alcorn School	-1	boiler room	2	1	0.75	FT	BJ	2015-3	DRIP				
Thomas Alcorn School	-1	boiler room	3	1	1	FT	BJ	2015-4	HEX				
Thomas Alcorn School	-1	boiler room	4	1	0.75	FT	BJ	2015-3	DRIP				
Thomas Alcorn School	-1	boiler room	5	1	0.75	FT	BJ	2015-3	DRIP				
Thomas Alcorn School	0	102		1	0.75	T-A	BJ	1929	RAD				
Thomas Alcorn School	0	104		1	0.75	T-A	BJ	1929	RAD				
Thomas Alcorn School	0	110		1	0.75	T-A	BJ	1929	RAD				
Thomas Alcorn School	0	119		1	0.75	T-A	BJ	1929	RAD				
Thomas Alcorn School	0	girls		1	0.75	FT	BJ	2015-3	DRIP				
Thomas Alcorn School	1	217		1	0.75	T-A	BJ	1929	RAD				
Thomas Alcorn School	1	conference		1	0.75	T-S	BJ	1929	RAD				
Thomas Alcorn School	1	204		1	0.75	T-S	BJ	1929	RAD				
Thomas Alcorn School	1	202		1	0.75	T-S	BJ	1929	RAD				
Thomas Alcorn School	1	201		1	0.75	T-S	BJ	1929	RAD				
Thomas Alcorn School	1	208		1	0.75	T-S	BJ	1929	RAD				
Thomas Alcorn School	1	main office/nurse		4	0.75	T-S	BJ	1929	RAD				

EXHIBIT 2 Steam Trap Survey Template - Town of Enfield Project

Building	Floor	Location	Steam Trap Installed			Type	Mfg	Model	Equipment	Annual Maintenance Information				
			Tag	Qty	Size					Test Method	Test Results	Action Required	Action Taken	Date
Thomas Alcorn School	2	306		1	0.75	T-A	BJ	1929	RAD					
Thomas Alcorn School	2	304		1	0.75	T-A	BJ	1929	RAD					
Thomas Alcorn School	2	302		1	0.75	T-A	BJ	1929	RAD					
Thomas Alcorn School	2	302 hall		1	0.75	T-A	BJ	1929	RAD					
Thomas Alcorn School	2	301		1	0.75	T-A	BJ	1929	RAD					
Thomas Alcorn School	2	women		1	0.75	T-A	BJ	1929	RAD					
Thomas Alcorn School	2	305		1	0.75	T-A	BJ	1929	RAD					
Thomas Alcorn School	2	faculty		1	0.75	T-A	BJ	1929	RAD					
Thomas Alcorn School	2	310		1	0.75	T-A	BJ	1929	RAD					
Thomas Alcorn School	2	309		1	0.75	T-A	BJ	1929	RAD					
Thomas Alcorn School	2	311		1	0.75	T-A	BJ	1929	RAD					
Thomas Alcorn School	2	314		1	0.75	T-A	BJ	1929	RAD					
Thomas Alcorn School	2	312		1	0.75	T-A	BJ	1929	RAD					
Thomas Alcorn School	2	men		1	0.75	T-A	BJ	1929	RAD					



PAYMENT APPLICATION

APPLICATION NUMBER: 1

CUSTOMER:

TOWN OF ENFIELD

PROJECT:

ENFIELD TOWN & SCHOOLS

CONTRACT #:

1

PROJECT #:

1

CONTRACTOR:

HONEYWELL INTERNATIONAL, INC.  
101 COLUMBIA DRIVE  
MORRISTOWN, NJ 07962

INVOICE NUMBER:

DOWN PAYMENT

APPLICATION DATE:

11/16/15

PERIOD FROM:

11/16/15

PERIOD TO:

11/16/15

CONTRACTOR'S APPLICATION FOR PAYMENT

The undersigned Contractor certifies that to the best of his knowledge and belief the work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by him for Work for which previous Certificates for Payment were issued and payments received from the Customer, and that current payment shown herein is now due.

CONTRACTOR:

By: \_\_\_\_\_ Date: \_\_\_\_\_

Application is made for Payment, as shown below, in connection with the Contract. The Contract Schedule of Values, and Change Order Summary, is attached. The present status of the account for this Contract is as follows:

ORIGINAL CONTRACT SUM .....	\$	10,346,886.85
Down Payment = \$544,210.80		
NET CHANGE BY CHANGE ORDERS .....	\$	0.00
CONTRACT SUM TO DATE .....	\$	10,346,886.85
TOTAL COMPLETED & STORED TO DATE .....	\$	544,210.80
TOTAL RETAINAGE WITHHELD TO DATE .....	\$	54,421.08
Retainage Rate = 10.00%		
TOTAL EARNED LESS RETAINAGE .....	\$	489,789.72
LESS PREVIOUS CERTIFICATES FOR PAYMENT .....	\$	0.00
CURRENT PAYMENT DUE .....	\$	489,789.72
BALANCE TO FINISH ( Including Retainage ) .....	\$	9,857,097.13

CHANGE ORDER SUMMARY	AMOUNT
Total changed approved in previous months by customer	\$0.00
Total approved this month	\$0.00
TOTAL CHANGES	\$0.00

CUSTOMER'S CERTIFICATE FOR PAYMENT

AMOUNT CERTIFIED .....

\$

In accordance with the Contract Documents, based on on-site job activities, the Customer certifies that the work has progressed to the point indicated; that to the best of his knowledge, information and belief, the quality of the work is in accordance with the Contract Documents; and that the Contractor is entitled to payment of the AMOUNT CERTIFIED.

(Attach explanation if amount certified differs from amount applied for.)

CUSTOMER

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Customer under this Contract

## Exhibit E-1



## ECM BREAKOUT

## SCHEDULE OF VALUES

APPLICATION NO <b>1</b>										
APPLICATION DATE <b>11/16/2015</b>										
PERIOD TO <b>11/16/2015</b>										
DESCRIPTION OF WORK	HONEYWELL HARD COST	HONEYWELL PROJECT SERVICE FEE		SCHEDULED VALUE	WORK COMPLETED		MATERIAL STORED (NOT IN WORK COMPLETED)	TOTAL COMPLETED AND STORED TO DATE		RETAINAGE
		%	\$		FROM PREVIOUS APPLICATIONS	THIS PERIOD		AMOUNT	(%)	
Down Payment - Technical Energy Audit Service Fee	\$41,910.00	-	-	\$41,910.00		\$41,910.00		\$41,910.00	100.00%	\$4,191.00
Down Payment - Performance & Payment Bond Service Fee	\$36,976.00	-	-	\$36,976.00		\$36,976.00		\$36,976.00	100.00%	\$3,697.60
Down Payment - Project Design Service Fee	\$465,324.80	-	-	\$465,324.80		\$465,324.80		\$465,324.80	100.00%	\$46,532.48
ECM 1 Lighting Material	\$801,873.00	35.20%	\$286,324.78	\$1,031,577.33						
ECM 1 Lighting Labor	\$548,888.00	35.20%	\$195,991.43	\$706,122.31						
ECM 2 Street Lighting Material	\$730,655.00	38.40%	\$284,612.69	\$961,995.97						
ECM 2 Street Lighting Labor	\$1,159,586.58	38.40%	\$451,694.79	\$1,526,736.44						
ECM 3 Boilers & Pumps Material	\$730,283.00	39.95%	\$295,950.21	\$972,175.28						
ECM 3 Boilers & Pumps Labor	\$894,432.79	39.95%	\$362,472.59	\$1,190,696.54						
ECM 4 Replace Multi-zone AHU & Chiller Material	\$114,750.00	39.70%	\$46,211.91	\$152,488.35						
ECM 4 Replace Multi-zone AHU & Chiller Labor	\$175,281.21	39.70%	\$70,588.92	\$232,926.73						
ECM 5 BMS Upgrades Material	\$494,978.00	45.15%	\$226,701.46	\$683,190.16						
ECM 5 BMS Upgrades Labor	\$1,085,343.75	45.15%	\$497,090.82	\$1,498,038.64						
ECM 6 Building Envelope Improvements Material	\$43,523.00	36.25%	\$16,004.33	\$56,421.32						
ECM 6 Building Envelope Improvements Labor	\$214,584.00	36.25%	\$78,907.09	\$278,177.37						
ECM 7 Water Conservation Material	\$69,869.00	34.75%	\$24,629.18	\$89,587.31						
ECM 7 Water Conservation Labor	\$123,678.00	34.75%	\$43,597.13	\$158,582.19						
ECM 8 Walk-in Freezer Cooler Controls Material	\$750.00	45.15%	\$343.50	\$1,035.18						
ECM 8 Walk-in Freezer Cooler Controls Labor	\$2,249.00	45.15%	\$1,030.05	\$3,104.17						
ECM 9,10,11 PC Power, Peripheral, Plug Load Mgmt Material	\$30,707.00	33.50%	\$10,435.01	\$39,011.29						
ECM 12 Pipe Insulation Material	\$84,110.00	33.50%	\$28,582.69	\$106,856.40						
ECM 12 Pipe Insulation Labor	\$89,696.00	33.50%	\$30,480.95	\$113,953.06						
<b>SUBTOTAL:</b>	<b>\$7,395,237.33</b>	<b>\$2,951,649.53</b>	<b>\$10,346,886.85</b>	<b>\$544,210.80</b>		<b>\$544,210.80</b>		<b>\$544,210.80</b>	<b>5.26%</b>	<b>\$54,421.08</b>

Note: Honeywell Project Service Fee includes Design, Project Management, Commissioning, Training, Construction M&amp;V, Permits, Performance Bond, and OH&amp;P